FEDERAL RAILROAD ADMINISTRATION

DRAFT SECTION 4(f)/303 STATEMENT

FOR THE

DAKOTA, MINNESOTA AND EASTERN RAILROAD

APPLICATION FOR

RAILROAD REHABILITATION AND IMPROVEMENT FINANCING (RRIF)

RELATING TO THE

POWDER RIVER BASIN PROJECT

AUGUST 2006

SUMMARY

In February, 2006, the Dakota Minnesota and Eastern Railroad (DM&E) applied to the Federal Railroad Administration (FRA) for a $2.33 billion loan under the Railroad Rehabilitation and Improvement Financing (RRIF) program to finance construction of the Powder River Basin (PRB) Expansion Project (Project), which has been previously considered in an extensive environmental impact statement (EIS) process and approved by the Surface Transportation Board (STB). Approval of a loan for the PRB Project requires FRA compliance with the requirements of the National Environmental Policy Act (NEPA), Section 4(f) of the Department of Transportation Act, 49 U.S.C. 303(c), and FRA's Environmental Procedures [64 Fed. Reg. 28545, 28522 at §12 (May 6, 1999)], see also 49 C.F.R. §260.35.

The FRA conducted a review of the EIS for the purpose of adoption pursuant to 40 C.F.R. 1506.3 and found that the actions encompassed by the DM&E RRIF application are covered by the STB's EIS and Supplemental EIS (SEIS), that the EIS and SEIS adequately assess the environmental impacts associated with the Project and meet the standards of the Council on Environmental Quality NEPA (CEQ) Regulation, and that the EIS and SEIS can be adopted by the FRA. In accordance with CEQ regulations, FRA has published a notice in the Federal Register adopting the STB EIS concurrent with the release of this Draft Section 4(f)/303 statement.

A Section 303 analysis addresses publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State or local significance, or land of a historic site of national, State or local significance that may be used by a proposed project. This statement identifies potential qualifying properties, evaluates potential effects on such properties in terms of whether there is a "use", identifies avoidance alternatives, and if avoidance is not feasible or prudent, identifies mitigation options, which would eliminate or reduce the "use".

The PRB Project involves construction of approximately 280 miles of new rail line and associated facilities in Wyoming, South Dakota, and Minnesota that would provide a third rail competitor in the southern portion of the PRB coal production area. Because its existing rail infrastructure is inadequate to handle the coal shipments, DM&E proposes as part of the Project to rebuild and comprehensively upgrade 598 miles of existing rail line in Minnesota and South Dakota, including additional sidings, signaling, grade-crossing protections, and other system improvements.

The STB is an economic regulatory agency that Congress charged with resolving railroad rate and service disputes and reviewing proposed railroad mergers. The STB is an independent decision-making body, although it is administratively affiliated with the U.S. Department of Transportation (DOT). The FRA is an operating administration of U.S. DOT and is delegated certain decision-making responsibilities by the DOT Secretary. The FRA is primarily responsible for railroad safety regulation and oversight, railroad financial and technical assistance, and policy.

In this Section 4(f)/303 statement, FRA has concluded that no feasible and prudent alternatives exist for the replacement of certain historic railroad bridges on the existing DM&E rail line proposed for rehabilitation including all timber and I-beam bridges, a stone arch bridge, stone box culverts, a concrete/I-beam bridge, and cast iron pipe culverts. Additionally, it is likely that numerous historic through-plate girder, deck-plate girder, through-truss, and concrete bridges may require replacement. However, final determinations as to the ability of these structures to handle the increased weight of Project trains will not be made until the design-build stage of the project. If possible, these structures will be retained and rehabilitated, resulting in only a *de minimis* use, if any use at all. Several *de minimis* uses could also occur with the PRB project to stone arch bridges, the Missouri River Trail, the Cottonwood Path Trail and the Sakatah Singing Hills State Trail. FRA has incorporated documentation and consultation by the STB in this evaluation and is seeking to participate in the Programmatic Agreement for compliance with the National Historic Preservation Act to ensure that the Project includes all possible planning to minimize harm to Section 303 resources.

This Draft Section 4(f)/303 statement is being provided for review and comment to the U.S. Department of Interior in accordance with DOI, DOT and FRA procedures. This Draft statement is also being concurrently made available to the public for comment through posting on FRA's website at: www.fra.dot.gov. Written comments should be submitted prior to October 10th, 2006 and may be provided to the Mr. David Valenstein, Federal Railroad Administration, Office of Railroad Development at 1120 Vermont Avenue, MS-20, Washington, DC 20590.

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ACRONYMS AND ABBREVIATIONS

BLM	Bureau of Land Management
BNSF	BNSF Railway Company
Board	Surface Transportation Board
BOR	Bureau of Reclamation
C&NW	Chicago and Northwestern Railroad Company
COE	Corps of Engineers
DM&E	Dakota, Minnesota, and Eastern Railroad Corporation
EIS	Environmental Impact Statement
FR	Federal Register
FRA	Federal Railroad Administration
NEPA	National Environmental Policy Act
PRB	Powder River Basin
Proposed Action	Powder River Basin Expansion Project
RRIF	Railroad Rehabilitation and Infrastructure Finance
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users
SEA	Section of Environmental Analysis
STB	Surface Transportation Board
USC	Unites States Code
USDOT	United States Department of Transportation
USFS	United States Forest Service
UP	Union Pacific Railroad Company

CHAPTER 1
INTRODUCTION

1.1 PROJECT HISTORY

The Powder River Basin of Wyoming and Montana holds the single largest concentration of coal reserves in the U.S. The coal is prized because of the ease and low cost of production and its relatively low sulfur content helps utilities meet Clean Air act requirements.

Serious development of these coal reserves did not begin until the mid 1970s with the construction of the so-called "joint line" between Douglas and North Antelope, WY by the Burlington Northern Railroad (since merged into BNSF), and the early 1980s when the Chicago & North Western Railroad (since merged into UP) paid for its share of the "joint line" and constructed a connection between the "joint line" to the UP's North Platte line at South Morrill, NE. Today the BNSF and the UP operate over a roughly 100-mile "joint line" in the southern Powder River Basin in Wyoming, from south of Gillette to Shawnee Junction. While UP can only move coal out of the Basin from the south, BNSF also has outlet routes on the north and east.

Over the past 10 years, demand for PRB coal has grown by more than 59 percent from 204 million tons produced annually in 1996 to 325 million tons today.[1] To accommodate this tonnage the carriers originate around 130 trains per day. Due to the increased demand, the two carriers have consistently expanded capacity on the joint line going from one to two tracks and from two tracks to nearly 60 miles of triple track. More expansion is planned and demand for PRB coal is expected to continue to grow.

The Dakota, Minnesota & Eastern Railroad Corporation (DM&E) was created in 1986, formed from rail lines the Chicago & North Western Railroad (C&NW)[2] was attempting to abandon. The current DM&E system includes approximately 700 miles of east-west main line track across southern and central South Dakota and southern Minnesota. It also consists of several hundred miles of secondary track extending off the rail line into northwestern Nebraska, northern Iowa, and other areas of South Dakota and Minnesota (Figure 1-1). It has the ability to interchange traffic with all of the seven Class I railroads operating in the United States and Canada. The Company operates with approximately 1,000 employees, 9,000 rail cars, and 150 locomotives.

DM&E is a Class II railroad, the primary rail transportation provider for most of South Dakota, and the only east-west railroad in southern Minnesota. The DM&E transports approximately 78,000 carloads annually, consisting primarily of grain and grain products, bentonite, kaolin clay, fertilizers, metal products, cement, paper and wood products. The rail

[1] Submission of Union Pacific Railroad Company, STB Ex Parte No. 657 (Sub-No.1), Major Issues in Rail Rate Cases, p. 8, May 1 2006

[2] The Union Pacific Corporation acquired the C&NW in 1995.

service it provides to agricultural shippers in its service area is an important component of the rural agricultural economies of South Dakota and Minnesota.

By application filed February 20, 1998, DM&E sought authority from the Surface Transportation Board (STB or Board) under 49 U.S.C. 10901 to construct and operate its proposed Powder River Basin (PRB) Expansion Project (Project), approximately 280 miles of new rail line and associated facilities in Wyoming, South Dakota, and Minnesota that would provide a third rail competitor in the southern portion of the PRB coal production area. Because its existing rail infrastructure was inadequate to handle the volumes of coal expected and needed to make the project viable, DM&E indicated its plans to rebuild and comprehensively upgrade 598 miles of its existing rail line in Minnesota and South Dakota to provide the infrastructure necessary to accommodate the anticipated level of coal traffic. Rebuilding and upgrading these existing lines would include additional sidings, signaling, grade-crossing protections, and other system improvements.

On December 10, 1998, the Board issued a decision finding that, based on the information available at that time, the project satisfies the transportation-related requirements of 49 U.S.C. 10901. The Board also indicated that, at the conclusion of the environmental review process, it would issue another decision on the entire proposed project, assessing the potential environmental impacts, and the cost of any environmental mitigation that was imposed.

The STB's Section of Environmental Analysis (SEA) issued a Draft Environmental Impact Statement (DEIS) for the Project on September 27, 2000, and a Final EIS on November 19, 2001. The STB issued a decision approving the proposed project, with conditions, on January 30, 2002. Following litigation challenging the January 2002 Decision, the 8th Circuit Court of Appeals partially remanded the case back to the STB on four issues. *See Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520 (8th Cir. 2003). The STB subsequently issued a Draft Supplemental EIS (SEIS) on April 15, 2005, and a Final SEIS on December 30, 2005. On February 15, 2006, the STB issued a decision again approving the proposed project, subject to extensive environmental conditions, including 147 mitigation conditions and an environmental oversight period, addressing both short-term (construction-related) impacts and impacts related to long-term operation of unit coal trains and requiring the use of environmentally preferable routes. All of the environmental documents issued by the STB are available on the STB's web site at: [http://www.stb.dot.gov/stb/environment/key_cases_dme.html] or through a link on the FRA's web site (http://www.fra.dot.gov) through the Freight Railroad/Environment.

At the time DM&E was formed, its rail infrastructure was in poor condition and remained so until recent improvement. In 2003, DM&E received a RRIF loan from the FRA in the amount of $233 million to refinance existing debt, to acquire the rail assets of the former I&M Rail Link to form the Iowa, Chicago and Eastern Railroad (ICE), and to make repairs and improvements to both DM&E and IC&E lines. The IC&E was formed as a wholly owned subsidiary of the DM&E in 2002 and now provides transportation services to approximately 300 on-line customers along approximately 1,400 route-miles in a five-state region (IA, MN, MO, IL, WI). The IC&E transports over 176,000 carloads annually,

consisting primarily of grain and grain products, coal, metal products, cement, chemicals, fertilizers, and lumber and paper products. In 2005, 20,000 cars flowed between the two systems, extending the haul of commodities by DM&E that were formerly handed off to other rail carriers.

The application to the STB for the Project occurred before the acquisition of the IC&E. In 2003, when approving the asset purchase and ownership of the IC&E[3], the STB imposed a condition precluding DM&E from handling any traffic moving to or from the line approved in consideration of the Project (PRB Expansion Project) over what are now IC&E lines until an appropriate environmental review has been conducted in the IC&E/I&M asset acquisition proceeding. As they explained in the IC&E/I&M Asset Acquisition decision served July 22, 2002 (slip op. at 16-17), the new environmental inquiry will be initiated when DM&E notifies the Board that it has begun construction of the new line, and provides the Board with additional necessary traffic and environmental information. Recently, the DM&E requested that the STB reconsider DM&E's proposal to run future Project coal trains over the IC&E although construction has not yet begun on the new line.

1.2 PROPOSED FRA ACTION AND APPLICABILITY OF SECTION 303

In February, 2006, DM&E applied to the Federal Railroad Administration (FRA) for a $2.33 billion loan under the Railroad Rehabilitation and Improvement Financing (RRIF) program to finance construction of the PRB Project, which requires FRA compliance with the requirements of the National Environmental Policy Act (NEPA), Section 4(f) of the Department of Transportation Act, 49 U.S.C. 303(c), and FRA's Environmental Procedures [64 Fed. Reg. 28545, 28522 at §12 (May 6, 1999)], see also 49 C.F.R. §260.35. Amendments to the RRIF program adopted in Section 9003 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Pub. L. No. 109-59, 119 Stat 1144) expanded the scope of the RRIF program and facilitated the DM&E RRIF application for the Project.

The FRA conducted a review of the EIS for the purpose of adoption pursuant to 40 C.F.R. 1506.3 and found that the actions encompassed by the DM&E RRIF application are covered by the STB's EIS and SEIS, that the EIS and SEIS adequately assess the environmental impacts associated with the Project and meet the standards of the Council on Environmental Quality (CEQ) NEPA Regulation (40 C.F.R. Part 1500-1508), and that the EIS and SEIS can be adopted by the FRA. CEQ's regulations implementing NEPA strongly encourage agencies to reduce paperwork and duplication. One of the methods identified by CEQ to accomplish this goal is adopting the environmental documents prepared by other agencies in appropriate circumstances, 40 C.F.R. §1500.4(n). In accordance with CEQ regulations, FRA has published a notice in the Federal Register adopting the STB EIS concurrent with the release of this Draft Section 4(f)/303 statement.

Because the STB's EIS for the project did not include a Section 4(f) evaluation, the FRA, with assistance from an independent contractor, has prepared this separate Section 4(f)

[3] STB Finance Docket No. 34178, Decision No. 7, January 31, 2003, Service Date February 3, 2003

Statement consistent with FRA procedures. While adopting the STB EIS and issuing a 4(f)/303 Statement, the FRA also seeks to join, as a concurring party, the March 2003 Programmatic Agreement, which was developed and executed for the Project by the STB, the DM&E, the Advisory Council on Historic Preservation, and State Historic Preservation Officers in the affected states to coordinate additional evaluation and consultation regarding historic and cultural resources under section 106 of the National Historic Preservation Act. By joining as a concurring party, the FRA would be better able to require the applicant to comply with the Programmatic Agreement as a loan condition should FRA approve the loan.

1.2.1 FRA's responsibilities under 49 U.S.C. 303.

Section 303 properties have commonly been referred to as "4(f) resources" in the past, which was a reference to the original section of Department of Transportation Act of 1966, as enacted, at which this mandate was found. (This portion the United States Code has subsequently been recodified at 49 U.S.C. 303). For the purposes of this document, Section 303 and Section 4(f) resources are considered the same.

The Department of Transportation Act was enacted three years before NEPA and Section 4(f) has many similarities to but is not exactly the same as the requirements of Section 102 (c) of NEPA. While NEPA applies to all Federal Departments and Agencies, Section 4(f) (Section 303) applies only to actions by the Secretary of Transportation. Normally, when an agency of the Department of Transportation such as FRA undertakes environmental reviews of proposed actions, the review requirements of both NEPA and Section 303 are covered by the same documentation. The STB however, is not subject to Section 303 since it's relationship to the Department of Transportation is only for administrative efficiency and the Secretary has no authority to review or alter decisions of the Board. Thus, when STB prepared the EIS and SEIS on the DM&E Project, these documents did not specifically address the requirements of Section 303.

This document provides the necessary Section 303 analysis for compliance with the Transportation Act of 1966. The information supplied for this Section 303 analysis was prepared in accordance with 49 U.S.C. 303 and FRA Procedures for Considering Environmental Impacts (64 FR 28545, 28552, §12, May 26, 1999), Section 12. It discusses the impacts that the proposed PRB Expansion Project would have on properties protected by Section 303.

A Section 303 analysis consists of identification of potential qualifying properties, evaluating potential effects on such properties in terms of whether there is a "use", identification of avoidance alternatives, and if avoidance is not feasible or prudent, identification of mitigation options, which would eliminate or reduce the "use".

FRA invites public comment on this draft Section 303 analysis. Following public and agency comment FRA intends to issue a final statement. DM&E's application for a RRIF program loan has also triggered the application of NEPA as discussed above. It is the FRA's intention to coordinate the Section 303 and NEPA analyses to the extent feasible.

1.3 DESCRIPTION OF SECTION 303 PROPERTIES

Section 303 applies to "…the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State or local significance, or land of a historic site of national, State or local significance…"

The Secretary of Transportation may only approve a program or project which uses such land if:

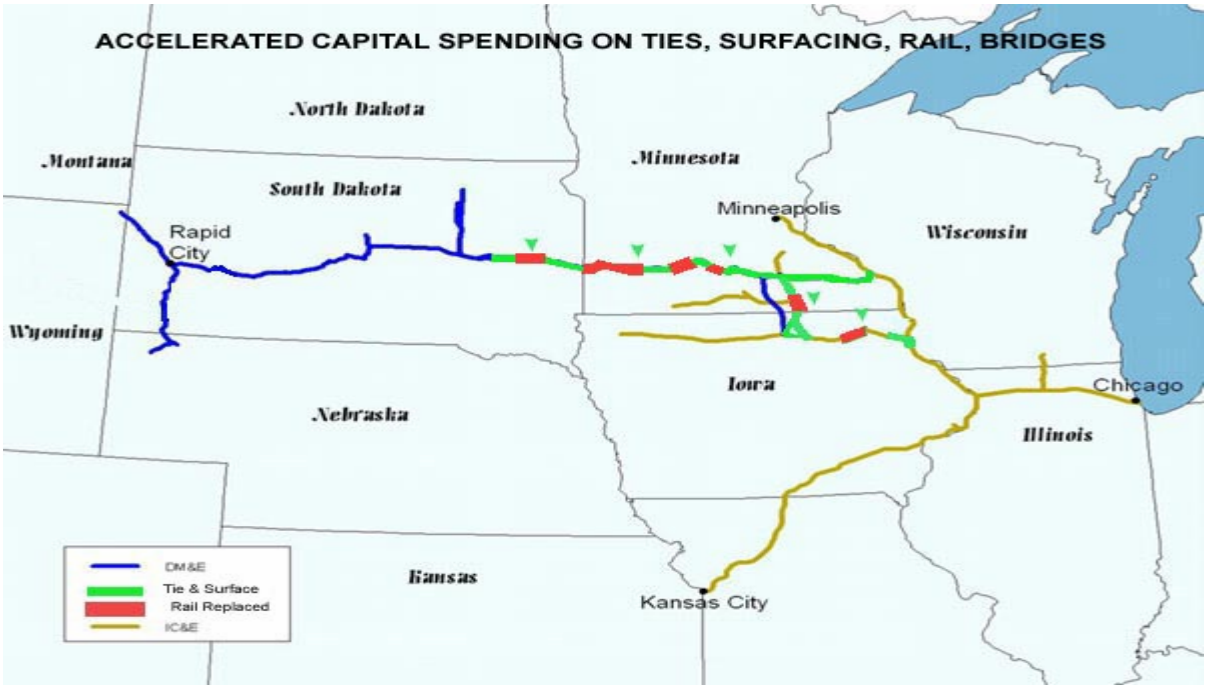
- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge or historic site resulting from the use.

1.4 FRA'S EXISTING INTERACTIONS WITH THE DM&E

In 2003, the FRA made an initial RRIF loan to the DM&E to refinance existing debt, to acquire the rail assets of the former I&M Rail Link by DM&E's subsidiary the Iowa, Chicago and Eastern Railroad (IC&E), and to make repairs and improvements to both DM&E and IC&E lines. The DM&E targeted the 2003 RRIF loan capital work to critical infrastructure problem areas that generated the strongest financial return, leaving many other areas of the DM&E system for future resolution.

A premise of the 2003 RRIF loan was to integrate DM&E and IC&E operations for the interchange of traffic. The Company has realized infrastructure improvements over portions of its system in the past two years as a result of the 2003 RRIF loan. 135 miles of the Company's 2,500-mile system was relayed with new 136-pound rail, 440,000 ties were installed, and a large quantity of bridge repairs and track surfacing was accomplished with the 2003 RRIF loan. The following map shows that the bulk of the 2003 RRIF loan funding was spent between Huron SD and Marquette IA.

Figure 1 - Map of 2003 RRIF Loan Capital Spending



In response to numerous track derailments and employee injuries between April 2004 and August 2005, FRA initiated a series of system-wide, on-site inspections to determine the level of DM&E's compliance with FRA safety regulations regarding Railroad Operating Rules and Federal Track Safety Standards. FRA also completed bridge evaluations to determine if DM&E's bridge inspection and management practices met the recommendations in FRA's Bridge Policy. FRA identified deficiencies in a number of areas. Throughout the process, FRA and DM&E maintained an active and open dialogue. FRA and DM&E entered into an October 18, 2005 Safety Compliance Agreement that identifies corrective actions in detail. This agreement remains in effect as of this date.

CHAPTER 2
COORDINATION

This chapter identifies coordination that occurred during other review processes that preceded this analysis, and also summarizes the proposed FRA action, which triggered the Section 303 analysis. During the STB's National Environmental Policy Act of 1969 (NEPA) process and Section 106 of the National Historic Preservation Act (Section 106) consultation, substantial consideration of impacts, avoidance, and mitigation of resources such as public parks, wildlife refuges, wildlife management areas and significant cultural (historic) resources occurred and related changes made in DM&E's plans. The NEPA process and Section 106 both entailed coordination and consultation with jurisdictional agencies, local governments, Tribal representatives and State Historic Preservation Offices (SHPOs) over the 8 years the process was underway.

2.1 THE STB'S NEPA PROCESS

Consistent with STB's approach in similar cases, an Environmental Impact Statement (EIS) was prepared by SEA with the participation of five cooperating Federal agencies (U. S. Department of Agriculture, Forest Service, U.S. Army Corps of Engineers [Corps], Omaha and St. Paul Districts, U.S. Department of the Interior [U.S.D.I.], Bureau of Land Management [BLM] and Bureau of Reclamation [Reclamation] and U.S. Coast Guard [Coast Guard]) (see 40 CFR 1501.6). The EIS addressed the potential environmental impacts resulting from increased rail operations over the portion of DM&E's line to be rebuilt as well as the impacts from the construction of the new rail line itself. Thus, the environmental record for this Project addresses the rehabilitation, upgrade, and increased use of DM&E's existing line, as well as the construction and operation of the proposed new line.

The STB's EIS also included a detailed evaluation of effects on publicly owned lands, including public parks, recreation areas, wildlife refuges, and historic and cultural resources. This Section 4(f)/303 statement discusses Section 303 Properties in Chapter 5 and, uses of Section 303 Properties in Chapter 6.

2.1.1 Key Events During the EIS Process

The following summarizes some of the key events during the EIS process for the Proposed Action:

- April-July, 1998 – Agency, Tribal, and interested party scoping meetings for the EIS.
- June 1998 – Draft Scope of Study for EIS published in the Federal Register.
- January 1999 – Community bypass proposals (City of Rochester, MN, Owatonna, MN, Brookings, SD, and Pierre, SD (a bypass of Mankato was proposed as part of the Proposed Action).

- March 1999 – Final Scope of Study for EIS released.
- September 2000 – Draft EIS issued.
- September – March, 2000 – Comment period (12 public meetings and 8,600 written comments received).
- November 2001 – Final EIS issued (including response to comments on Draft EIS).
- January 2002 – STB issues decision.
- April 2005 - Draft SEIS issued.
- December 2005 – Final SEIS issued.
- February 2006 – STB issues decision approving project, subject to mitigation conditions.

2.1.2 Overview of the EIS and SEIS

In preparing the EIS, SEA obtained extensive public input from a broad range of interests that include Federal, state, and local agencies; various interest groups; affected communities; Native American Tribes; and members of the general public, largely from the States of Minnesota, South Dakota, and Wyoming, but also from locations throughout the United States. Their concerns included the potential for safety impacts (including emergency vehicle access); noise/vibration increases; property value decreases; impacts to air quality, wildlife and threatened and endangered species, water resources, and land use; effects on cultural resources and Tribal traditions, paleontological resource impacts, "environmental justice" demographic issues, and general quality-of-life issues. Input also included issues related to public parks, recreation areas, wildlife refuges and wildlife management areas.

To account for anticipated growth in traffic as DM&E's proposed access to the Southern PRB was implemented and the railroad developed its customer base, SEA evaluated potential environmental impacts for three levels of projected rail operations: 20 million tons of coal transported annually (8 coal trains per day); 50 million tons (18 coal trains per day); and 100 million tons (34 coal trains per day). SEA also examined various alternatives to DM&E's proposal, including bypasses sought by Rochester, MN, and Brookings and Pierre, SD, to route coal trains away from those communities.

SEA's in-depth environmental review of the various project components included:

- Independent studies supporting the EIS included: preparing biological surveys for threatened and endangered species; cultural resource investigations for archaeological sites and historic resources; compiling data and studying potential effects on safety, including grade crossing safety and potential traffic delays; air quality (including visibility); railroad and vehicular traffic volumes; wetlands and aquatic resources; noise; wildlife migration; geological resources and soils, and; potential impacts to ranches, farms, and communities, including environmental justice concerns associated with construction of approximately 280 miles of new

rail line and upgrading 600 miles of existing rail line. In conducting its environmental analysis, SEA was assisted by several agencies with technical expertise, including the five cooperating agencies. These agencies participated in the development of the Draft EIS, including the preliminary recommended mitigation.

- Independent analysis of potential project impacts related to operational increases in rail traffic including safety (such as grade crossing safety, potential vehicular delays, and emergency vehicle response); noise impacts on adjacent noise sensitive properties, including historic properties; air quality impacts including effects on visibility impairment at National Parks and wilderness areas; construction-related impacts to safety, land use, biological resources, water resources, geology and soils; and issues related to socioeconomics, hazardous materials, transportation systems, cultural and historic resources, environmental justice, and cumulative effects.

In conducting its environmental analysis for the Draft EIS, SEA considered a wide variety of stakeholder interests. These included the State Historic Preservation Officers (SHPOs) and other local, state, and Federal government agencies with jurisdiction, community organizations; Tribes; homeowners; farmers and ranchers; and special stakeholder groups interested in resources affected by this project (such as two National Grasslands in Wyoming and South Dakota through which the proposed line would pass).

The Section of Environmental Analysis (SEA) also conducted appropriate technical analyses and studies, consultations, and site visits and gathered extensive data. As explained in the Draft EIS, DM&E's existing system in Minnesota and South Dakota, was never designed for the volumes and weight of the traffic anticipated and had been primarily maintained as FRA Class I track (maximum allowable speed of 10 miles per hour) for many years. Those portions of the DM&E that would be used by the new coal traffic would need to be significantly upgraded to allow the operation of unit coal trains. Consequently, the increase in the number of trains operating on the existing system (from approximately 2 to 9 trains per day to a maximum of 37 total—including coal and freight—trains per day) and the impacts caused by construction and operation of approximately 280 miles of new rail line through generally undeveloped rural areas would have significant environmental consequences.

Accordingly, the EIS recommended, and the STB subsequently imposed, substantial mitigation (147 conditions in all along with an environmental oversight period) to reduce or eliminate many of the potentially significant adverse environmental impacts along with estimated costs for the imposed environmental mitigation. The EIS also addressed which routing alternatives would be environmentally preferable (see DEIS Chapter 4, Project Alternatives).

As provided for in its environmental procedures, the STB thoroughly reviewed the EIS and, with exceptions outlined in the decision, concurred in all of SEA's analysis and recommendations. Thus, the STB imposed conditions on approval of the construction of DM&E's new line that would require DM&E to use environmentally preferable routings and to comply with the other mitigation measures identified in the Final EIS.

Several concerned citizens, stakeholder groups and one municipality opposed to the Project filed a lawsuit in the U.S. Court of Appeals for the 8th Circuit to challenge the STB's 2002 Decision on a variety of grounds. On October 2, 2003, the court issued its decision, applauding STB for its "highly commendable and professional job in evaluating an enormously complex proposal." *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520, 556 (8th Cir. 2003). Nevertheless, the court remanded the case back to STB to address and clarify four issues. First, the court indicated STB needed to consider any effects that might occur as a result of the reasonably foreseeable increase in coal consumption. A second issue on remand related to whether the STB satisfied the requirements of Section 106 of the National Historic Preservation Act (NHPA). While the court upheld the STB's use of the Programmatic Agreement, explaining that such an agreement "gives an agency flexibility when 'effects on historic properties cannot be fully determined prior to approval of an undertaking,'" the court indicated that the Programmatic Agreement had not yet been finalized and executed at the time of the 2002 Decision. Id. at 555. Additionally, the court indicated STB needed to consider the potential synergistic effects of noise and vibration, as well as more thoroughly explain its rationale for not including mitigation for horn noise.

On April 15, 2005, SEA issued a Draft SEIS addressing the four remanded issues for public comment. It addressed the potential increased coal usage and related air emissions that could result, whether mitigation for increased horn noise was warranted, and the relationship between vibration and horn noise – issues that STB clarified based on the judicial decision. The STB also noted that the Programmatic Agreement had been executed. SEA issued the Final SEIS on December 30, 2005 in which it responded to the comments received on its analysis in the Draft SEIS. On February 15, 2006, the STB issued a decision again approving the proposed project, subject to 147 mitigation conditions and an environmental oversight period. The environmental conditions identified in the STB 2006 Decision are provided in Appendix A.

2.2 THE STB'S SECTION 106 CONSULTATION AND SECTION 303

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to determine whether their undertakings will have adverse effects on historic properties that are on or eligible for listing in the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Section 106 resources includes historic structures and cultural resource sites that are on or eligible for the NRHP, traditional cultural properties (TCPs), national landmarks, and national monuments. Section 106 resources identified for this Project are historic railroad bridges and culverts, historic structures adjacent to or near the rail line, cultural resource sites (archaeological sites) and TCPs of Native American Indian tribes.

The SEA conducted an extensive Section 106 consultation that led to the development and execution of a Section 106 Programmatic Agreement for the Project by the STB, the DM&E, the Advisory Council on Historic Preservation, and State Historic Preservation Officers in the affected states to coordinate additional evaluation and consultation regarding historic and cultural resources. The FRA seeks to join this Programmatic Agreement as a concurring

party and has relied upon the STB's past consultation to identify historic sites subject to Section 303.

2.2.1 Agency Coordination

Consultation pertaining to Section 303 resources occurred as a result of the STB's Section 106 consultation process. The following agencies were engaged in Section 106 consultation that pertained to resources that are also covered by Section 303:

- Advisory Council on Historic Preservation
- Minnesota State Historic Preservation Officer
- South Dakota State Historic Preservation Officer
- Wyoming State Historic Preservation Officer
- U.S.D.A Forest Service, Region 2
- U.S.D.I. BLM, Montana/Dakotas State Office
- U.S.D.I. BLM, Wyoming State Office
- U.S.D.I. Bureau of Reclamation
- U.S. Army Corps of Engineers, Omaha District
- U.S. Army Corps of Engineers, St. Paul District

Coordination and consultation occurred with the above agencies beginning in April 1998, covering virtually every aspect of the identification and evaluation of Section 106 properties (and other public recreational areas and trails, and refuges), as well as the adverse effects on Section 106 properties and avoidance/mitigation measures. Agency personnel were invited to participate in the fieldwork and surveys to identify and evaluate historic, cultural, archaeological, and recreational resources, as well as to comment on the development of specific work plans regarding the same. The above agencies received and commented on draft reports, and negotiated the terms of the Programmatic Agreement, as explained more fully below. In short, all the above agencies participated in detailed and extensive Section 106 coordination and consultation from 1998 through 2003.

2.2.2 Development of the Programmatic Agreement

A Programmatic Agreement (PA) was developed among the lead and cooperating agencies, the Advisory Council on Historic Preservation, Native American Tribes and Tribal entities, the State Historic Preservation Offices (MN, SD and WY) and the Applicant covering identification, avoidance, and mitigation efforts for cultural resources along the preferred alignment, evaluation of cultural resources, recordation or mitigation of effects on cultural resources and procedures for coordination/consultation with agencies (Federal and state) and Tribes. The PA was finalized in May 2003. See Appendix B.

The PA identifies requirements, procedures and actions which must be complied with relative to identifying eligible resources, determining effects, development of treatment plans (including considerations for avoidance and, if avoidance is not reasonable and prudent, mitigation), documentation, and public involvement to satisfy Section 106 NHPA requirements.

2.3 STB'S COORDINATION WITH INDIAN TRIBES AND SECTION 303

Traditional Cultural Properties (TCPs) are eligible under Section 106, and thus potential Section 303 properties. Early in the environmental review process, SEA initiated government-to-government consultations with Federally recognized Tribes with historic, aboriginal, or current ties to the project area that might have an interest in the proposed PRB Expansion Project. SEA identified these Tribes with the assistance of the cooperating Federal agencies, State Historic Preservation Offices, and the Bureau of Indian Affairs, through recommendations of individual Tribes, and by applying Federal regulations. In identifying potentially affected Tribes and in conducting its analysis of potential impacts to Tribal lands, SEA applied the following Acts:

- The National Historic Preservation Act.
- The American Indian Religious Freedom Act.
- The Native American Graves Protection and Repatriation Act.

To ensure that each Tribe would be as involved as it wished to be in the environmental review process, SEA conducted tailored outreach to each identified Tribe. SEA's outreach to Tribes is presented in Appendix D of the Draft EIS, "Environmental Justice Methodology and Outreach."

All Tribes were invited to participate in the Draft EIS comment process by attending and speaking at public meetings and offering written comments. SEA hosted two Tribal consultation meetings prior to release of the Draft EIS (which included a Draft PA for agency, Tribal and public review and comment) followed by a three-day meeting on the Rosebud Reservation to afford affected and interested Tribal members an additional opportunity to ask questions and provide comment on the Draft EIS during the comment period following release of the Draft EIS. At the Rosebud meeting, 70 Tribal members spoke and more attended. The Board posted the transcript of this meeting, and all of its other public-meeting transcripts for the Draft EIS, on the Board's website at http://www.stb.dot.gov.

During these government-to-government consultations, SEA, the participating Tribes, cooperating agencies, SHPOs, and organizations developed a PA and Identification Plan (ID Plan), included in Appendix G of the Final EIS. The PA and ID Plan ensure opportunities for Tribal participation in efforts relating to identification, avoidance, and mitigation of historic and cultural resources under Section 106 of the National Historic Preservation Act.

SEA and the Tribes, working with DM&E, also developed a Memorandum of Agreement (MOA). This agreement, outside ordinary regulatory processes, was to ensure Tribal

participation and consideration throughout the NEPA process and project development, particularly in specific areas of particular concern to the Tribes including TCPs (sacred sites used for religious ceremonies, areas of special importance due to events of history, and areas of interest due to collection of plants used for tribal ceremonies). The MOA was also developed to obtain the written commitment of DM&E to address Tribal issues of concern.

Chapter 12 of the Final EIS recommends that the Board's final decision include conditions affording the Tribes ongoing participation in the implementation of this project if the Board gives final approval to DM&E's proposal. In addition, the PA and ID Plan, as well as the MOA, have been circulated to the Tribes for signature. Regardless of whether they choose to sign those documents, the Board imposed conditions requiring DM&E to comply with these documents, which address cultural resource and other issues of concern to the Tribes, as part of its 2006 Decision approving the project.

2.4 OTHER STB COORDINATION RELATED TO SECTION 303 PROPERTIES

As part of the NEPA process, specific Section 303 properties and related issues were discussed and evaluated though not in the specific context of Section 303, which was not applicable to the STB's review process. Section 303 properties identified for this Project were wildlife and waterfowl refuges, state and local public parks, and public recreational trails. The following provides a summary of this coordination and the outcome of those discussions.

2.4.1 Agency Scoping

Prior to issuing the Draft EIS, SEA engaged the public and governmental agencies in an extensive scoping process. The Draft EIS has details of the scoping process in Chapter 1, "Scoping and Public Involvement," and copies of scoping materials in Appendices B and C, "Agency Correspondence" and "Scoping and Outreach Materials." The scoping process also is summarized in the Draft EIS Executive Summary.

During scoping, agencies such as the National Park Service, U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, South Dakota Game, Fish, and Parks, and local cities provided comments related to waterfowl production areas, recreation areas, and community parks, which were noted and subsequently addressed in the Draft and Final EIS.

2.4.2 Agency Consultations

Throughout the environmental review process, SEA extensively consulted with other agencies. As discussed throughout the Final EIS, SEA participated with five cooperating agencies on the environmental analysis reported in the Draft EIS and the Final EIS, and has consulted with many other Federal, state, and local agencies with specific interests and expertise through correspondence, telephone calls, and agency meetings.

Throughout the course of the environmental review process, consultations with the five cooperating agencies, as well as the Environmental Protection Agency (Region 5 and 8), discussed Section 303 elements such as historic sites, recreational trails, parks, and wildlife refuges.

2.4.3 Local Coordination

As part of community outreach and consensus building for the Project, DM&E worked with communities in which the DM&E rail line exists. Community plans for 51 of the 56 communities along DM&E's existing mainline for rehabilitation were jointly developed to address community issues and concerns, minimize potential project-related impacts, and create opportunities for each respective community.

2.5 STB'S PUBLIC OUTREACH

SEA conducted extensive public outreach throughout the environmental review process for the proposed PRB Expansion Project, beginning with SEA's Notice of Intent (published in the Federal Register on March 30, 1998) to prepare an EIS. Outreach continued during scope of study development and preparation of the Draft EIS and Final EIS, through meetings and consultations, site visits, use of the Board's official website, and a toll-free Environmental Hotline. In addition, SEA prepared comprehensive mailings of postcards, a newsletter, and other informational materials and provided many opportunities for government agencies, including SHPOs, Tribes, and citizens to comment on the proposed PRB Expansion Project.

The Draft EIS included a detailed discussion of SEA's public outreach activities prior to issuance of the Draft EIS (See Powder River Basin Expansion Project DEIS- Appendices B and C). This part summarizes those activities and efforts.

2.5.1 Public Involvement Approach and Process

In encouraging public participation, SEA complied with pertinent Federal statutes, regulations, and executive orders to design public participation activities that broadly informed the public about the proposed project. SEA also offered the public many opportunities to raise concerns at public meetings, including those related to properties that are also protected by Section 303, as well as to review and comment in writing on all aspects of the Draft EIS, including the PA. This allowed SEA to assess and address public concerns and determine the extent to which additional environmental analysis and mitigation measures were required for preparation of the Final EIS. Appendix O of the Final EIS contains copies of public-involvement materials mentioned here and elsewhere in the Final EIS.

2.5.2 Draft and Final EIS Notification

SEA used a number of notification methods to inform the public of the proposed PRB Expansion Project and milestones in the environmental review process. These activities involved distributing the Draft EIS and Final EIS and notifying the public of their availability, informing all interested parties of the public meetings on the Draft EIS and how to participate in them, and encouraging and requesting public comment on all aspects of the Draft EIS, including the Biological Assessment, the Draft PA and Identification Plan, and the proposed Forest Plan Amendments. SEA also reached out to environmental justice and Tribal populations, as discussed later in this chapter. Table 2-2 "Public Notification,"

presents a detailed list of SEA's public outreach efforts during preparation and distribution of the EIS, and continuing through the Supplemental EIS.

SEA also maintained a toll-free Environmental Hotline for obtaining up-to-date information on SEA's environmental review and the public meetings held during the Draft EIS comment period. The Hotline also allowed callers to leave messages with questions or to request further information. SEA's environmental staff responded promptly to all calls received and updated the Hotline throughout the environmental review process.

TABLE 2-1
PUBLIC NOTIFICATION

Activity	Date
SEA mailed postcards to interested parties requesting confirmation of address and preferred format for Draft EIS.	June 2, 2000
Board issued a press release with information on the postcard mailing.	June 2, 2000
SEA distributed public service announcements to media on postcard mailing.	June 7, 2000
Board served the Draft EIS on Parties of Record, and SEA issued the Draft EIS for public review and comment.	September 27, 2000
Board issued a press release announcing the availability of the Draft EIS, information on the public meetings and how to participate in them, and project information.	September 27, 2000
Board published a notice in the *Federal Register* announcing the availability of the Draft EIS, information on the public meetings and how to participate in them, and certain project information.	September 27, 2000
Board served a Decision announcing the availability of the Draft EIS and providing notice of the public meetings.	September 27, 2000
SEA updated the Environmental Hotline with information about the Draft EIS and public meetings.	September 27, 2000
SEA distributed public service announcements to media with information about the Draft EIS and public meetings.	September 27, 2000
SEA published legal notices in newspapers with information about the Draft EIS and public meetings.	September 27, 2000
EPA published a notice in the *Federal Register* announcing availability of the Draft EIS and initiating a 92-day comment period.	October 6, 2000
Board issued a press release with reminder of and information on the first four public meetings.	October 20, 2000
SEA hosted 12 public meetings to solicit comments on the Draft EIS.	October 30 -

Activity	Date
	November 16, 2000
Board issued a press release with reminder of and information on the eight remaining public meetings.	November 2, 2000
SEA updated the Environmental Hotline with reminder of and information on the eight remaining public meetings.	November 3, 2000
SEA updated the Environmental Hotline confirming that the two public meetings in Pierre, SD would be held as scheduled.	November 13, 2000
SEA hosted a Tribal meeting on the Rosebud Reservation so all interested Tribal members could provide comments on the Draft EIS.	November 28-30, 2000
Board served a Decision extending the close of the Draft EIS comment period from January 5, 2001 to March 6, 2001.	December 14, 2000
Board issued a press release announcing the comment period extension.	December 14, 2000
SEA mailed postcards to all interested parties announcing the comment period extension.	December 14, 2000
SEA updated the Environmental Hotline with information on the comment period extension.	December 15, 2000
SEA updated the Environmental Hotline with information on the close of the comment period and Final EIS preparation.	March 20, 2001
Board issued a press release announcing Final EIS preparation information.	May 17, 2001
SEA distributed a Project Update to all interested parties with information on the Final EIS preparation.	May 18, 2001
Board served a Decision announcing the availability of the Final EIS.	November 19, 2001
Board served a Decision granting final approval to the proposed project, including imposing extensive mitigation conditions and establishing an environmental oversight period.	January 28, 2002
Notice issued by the Board indicating that it had begun work on the four issues remanded by the 8th Circuit Court of Appeals in Mid States Coalition for Progress v. STB.	March 3, 2004
SEA conducts post-card mailing to Parties of Record, elected officials, agencies, and the environmental service list indicating its intent to prepare a Supplemental EIS and requests up-to-date information for distributing the document.	January – February 2005
Board served a Decision announcing the availability of the Draft Supplemental EIS and establishing a 45-day comment period.	April 15, 2005
EPA publishes Notice of Availability of Draft Supplemental EIS in the Federal Register.	April 22, 2005

Activity	Date
Comment period on the Draft Supplemental EIS closes.	June 6, 2005
Board serves a Decision announcing the availability of the Final Supplemental EIS.	December 30, 2005.
EPA publishes Notice of Availability of Final Supplemental EIS in the Federal Register.	January 6, 2006
Board serves a Decision again granting approval for the project, subject to extensive mitigation conditions and an environmental oversight period.	February 15, 2006

2.5.3 Public Comments Related to Section 303 Properties

During the 152-day public comment period on the Draft EIS, SEA received about 8,600 comments, all of which were read, coded, and summarized. SEA established a process to sort and categorize specific, general, and form letters, petitions, and issues raised at public meetings. Input included comments from jurisdictional agencies and local governments regarding avoidance and minimization of adverse effects on resources such as public parks, wildlife refuges, wildlife management areas and historic sites.

Comments received, and subsequently responded to in the Final EIS, included comments related to air quality at National Parks, access to State recreation areas, access and safety for recreational trail users, impacts to waterfowl production areas, tribal coordination, and concerns for wildlife and public lands.

2.5.4 Public Meetings

From October 30 through November 16, 2000, SEA hosted 12 public meetings on the Draft EIS in Douglas and Newcastle, Wyoming; Rapid City, Pierre, and Brookings, South Dakota; and Mankato and Rochester, Minnesota. A meeting also was held at the Rosebud Reservation. All of these meetings were scheduled to occur during the public comment period, originally running from September 27, 2000 to January 5, 2001, but extended by 60 days to close on March 6, 2001. More than 1,730 persons attended public meetings, and approximately 500 persons provided oral comments during the meetings.

At the start of each meeting, SEA and representatives of some cooperating agencies presented information on the Draft EIS scope, approach, analysis, results, and how to submit additional written comments. A meeting facilitator called commenters to speak in the order in which they had registered. To allow as many persons as possible to speak, the facilitator enforced time limits, encouraging speakers to submit written comments to supplement their oral comments. Additional speakers who had not registered, or who had already spoken at previous meetings, were allowed to speak, when time permitted, at some meetings. Although SEA established specific hours for the public meetings, several of them continued for several hours beyond their scheduled time to allow everyone who had registered the opportunity to speak. A court reporter transcribed all public meetings, and transcripts were posted on the Board's website, at http://www.stb.dot.gov.

CHAPTER 3
PURPOSE AND NEED

3.1 PURPOSE OF THE PROPOSED ACTION

In the Application to the FRA for the RRIF loan the DM&E's asserts that the purpose of the PRB Project is to "rebuild and expand a regional rail infrastructure into a modern, highly efficient and safe Class I railroad,[4] and to add over 100 million tons of net rail freight capacity to the national rail system – most of which will serve the heavily rail-dependant agriculture and utility industries." DM&E's original Application to the STB identified two primary purposes for the Project: first, to have a third rail carrier serve the PRB, enhancing competition and operations; second, to improve service and the operational safety of its existing operations. The Board concurred in its December 10, 1998 decision, that the PRB Expansion Project would transport coal more cost-competitively and reliably from a specified group of coal-producing mines in Wyoming's southern PRB[5] over the shortest, most energy-efficient route to coal-burning electricity-producing utilities in DM&E's target market,[6] as well as the public they serve. The FRA agrees that the Project would provide a new second set of railroad lines and third railroad providing transportation to coal mines in the Powder River Basin of Wyoming that has become the principal source of low sulfur coal for power generation west of the Appalachians.

The Board concluded in its January 28, 2002 decision that approving the new PRB line and attendant upgrade of DM&E's lines from Wasta, SD, to Winona, MN, would have a positive impact on DM&E's existing shippers by providing them with more efficient service. The Board found and FRA agrees that current and future shippers on DM&E's existing lines would benefit from the rehabilitating and rebuilding of existing infrastructure to the higher standards that would be required by its use as a major route for coal transportation. The benefits would be in the form of reduced transit times, more reliable service and improved safety. Increased rail system safety, reliability, and efficiency could also produce rural economic benefits such as increased farm income, increased economic development, and less burden on the rural road network.

[4] Railroads are classified by the Surface Transportation Board according to average annual operating revenues (AAOR). Class I railroads have AAOR of $256.4 million or more; Class II railroads have AAOR of between $256.4 million and $20.5 million; and Class III railroads have AAOR of less than $20.5 million.

[5] The Application identifies 11 mines (Caballo, Belle Ayr, Caballo Rojo, Cordero, Coal Creek, Jacobs Ranch, Black Thunder, North Rochelle, North Antelope, Rochelle, and Antelope) to be served. Coal from these southern PRB mines has low sulfur dioxide and sodium content relative to British thermal unit content, and is particularly suited to electric utilities, with cost-competitive delivery, as a replacement for high-sulfur coal.

[6] Target markets for delivery of DM&E coal are (1) rail-based utility plants in Minnesota and Wisconsin, (2) Mississippi River utilities, (3) Great Lakes utilities, and (4) Chicago gateway. DM&E determined that the primary criterion of its target market was an area where the project could introduce new transportation efficiencies and competitiveness sufficient to allow utilities to convert from high-sulfur coal to the lower-sulfur PRB coal.

3.2 NEED FOR THE PROPOSED ACTION

DM&E states the overall need for the project as the development of viable, safe, and competitive rail service offering a reliable fuel source to Midwestern utilities, which must meet increased demands for energy production and respond to a changing regulatory environment requiring cheaper, cleaner energy. Each component of the project need is summarized below and presented in detail in Chapter 1 of STB's DEIS and in Chapter 2 of the STB's FEIS.

3.2.1 National Energy Policies

SEA presented information in the Draft EIS that the Project would help electric utilities meet national energy policies and adapt to deregulation, with lower electricity prices for consumers. This material came from published and publicly available sources, many from the Edison Electric Institute (EEI).[7] Because EEI expressed support for the project during the Draft EIS comment period,[8] and because it represents the electric-utility industry, several commenters on the Draft EIS called into question EEI's credibility. Therefore, SEA conducted additional research using other sources on deregulation, its effects, and the need for this project, if any, in a deregulated electric industry. The following summarizes their research regarding deregulation of the power industry:

- Public Utility Regulatory Policy Act of 1978 (PURPA) – allowed non-utilities producing energy to sell power to utilities.
- Energy Policy Act of 1992 – enabled non-utilities to use existing transmission network owned, operated, and maintained by utilities.
- Federal Energy Regulatory Commission Orders 888 and 889 – provided for open access to electricity network and required utilities to share information related to transmission capacities.
- Deregulation requires disclosure of a utility companies operation costs.
- Efficiencies in electrical generation have resulted in lower generation costs.
- Restructuring of the power industry allows consumers to choose their electricity supplier and includes the potential for full retail competition for electrical power.
- Competition in the markets due to deregulation will benefit consumer costs.

[7] Edison Electric Institute is an association of shareholder-owned electric utilities (also known as investor-owned utilities or IOUs), including 200 U.S. companies, over 45 international affiliates, and over 100 associations. Edison Electric Institute serves the needs of its member utilities by advocating public policy, developing and expanding markets, and providing information to assist members in making strategic business decisions.

[8] Edison Electric Institute (EEI) representatives presented oral comments of support, and Leboeuf, Lamb, Greene & Macrae submitted written comments of support on EEI's behalf during the Draft EIS comment period. However, SEA considers EEI references it used in the Draft EIS credible because EEI's information was based on published, publicly available sources.

- Competition will likely lead to improvements in electrical generation technology and ultimately increase electrical power generation efficiency as a means to reduce costs.
- Cleaner coal sources and improved extraction methods will reduce costs and meet new air quality standards.

The use of PRB coal makes it easier for existing and emerging electricity generators to comply with national policies on deregulation, Clean Air Act Amendments (CAAA), and increased utilization of coal resources. Using lower-cost PRB coal helps utilities reduce both fuel costs and the price of electricity, to more easily attract and retain customers in a competitive marketplace. Existing electricity generators using lower-sulfur PRB coal versus higher-sulfur coal emit less sulfur dioxide, thereby freeing up air emission credits for sale to other facilities. New facilities that use PRB coal will minimize sulfur dioxide emissions, thus needing to buy fewer scarce credits.

3.2.2 Increased Energy Demand

STB's Draft EIS showed a projected increase in coal-generated electricity from 1,796 billion kilowatt-hours in 1997 to 2,298 billion in 2020, an annual 1.1 percent increase.[9] Studies done in 2001 show a more rapid short-term increase. While the total projection for 2020 is the same, 2005's figure was increased from 1,976 to 2,085 billion kilowatt-hours, 2010's from 2,046 to 2,196 billion, and 2015's from 2,151 to 2,246 billion.[10]

In 2006 the U.S. Department of Energy projects that 2020 coal-generated electricity consumption will rise above previous estimates to 2,405 billion kilowatt-hours. With the retirement of 65 gigawatts of older generating capacity and increased electricity demand, 347 gigawatts of new electricity generating capacity will be needed by 2030. Coal powered electric generators are expected to provide 50% of this new generating capacity.[11]

Coal has historically and is expected to continue to provide approximately 50 percent of total electricity generated in the United States. By 2020, coal is expected to provide about 52 percent of electricity generation[12]

3.2.3 Increased Demand For PRB Coal

Use of low-sulfur PRB coal is an economical way to comply with the Clean Air Act and lower SO2 emissions. To generate competitively priced electricity system wide, utilities may increase generation from low-sulfur coal, of which PRB is one of the cheapest source. For these reasons, demand for coal from Wyoming, already the nation's leading coal-producing state, is expected to increase.

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[9] Annual Energy Outlook 1999 - With Projections to 2020, U.S. Department of Energy, Energy Information Administration, December, 1998.

[10] Annual Energy Outlook 2001 - With Projections to 2020, U.S. Department of Energy, Energy Information Administration, December, 2000.

[11] Annual Energy Outlook 2006 - With Projections to 2030, U.S. Department of Energy, Energy Information Administration, February, 2006.

[12] Ibid.

3.2.4 Increase Rail Capacity

Coal is currently the largest single commodity transported by the rail industry. The Draft EIS indicated that coal accounts for 35 to 40 percent of total rail commodity traffic in the United States.

Over the past 10 years, demand for PRB coal has grown by more than 59 percent from 204 million tons produced annually in 1996 to 325 million tons today.[13] To accommodate this tonnage the carriers originate around 130 trains per day. Due to the increased demand, the two carriers have consistently expanded capacity on the joint line going from one to two tracks and from two tracks to nearly 60 miles of triple track. More expansion is planned and demand for PRB coal is expected to continue to grow.

As reliance on PRB coal for electricity generation increases, potentially to as much as 42 percent of all coal-generated electricity by 2010,[14] the need for more rail capacity and alternative routes for PRB coal will also increase. The 2001 National Energy Policy recognizes the importance of rail transportation to PRB coal resources. It notes that there are currently rail capacity problems that have created a bottleneck for movement of coal out of the Wyoming PRB. EIA further indicates that railroad expansions in the PRB are necessary to enable mines to meet the expected increased demand for PRB coal.[15] As noted in the Draft EIS, the additional rail capacity of a third PRB rail carrier and its upgraded system would alleviate the impacts of rail service failures or delays caused by flooding and snowstorms. The Project would provide additional capacity for the PRB as well as the upper Midwest. DM&E's rail line would provide an alternative route for UP and BNSF trains leaving the PRB, should there be problems on the Joint Line. Conversely, if the project is approved, UP and BNSF lines could provide alternative rail routing, if DM&E were to experience temporary service problems.

3.2.5 Increased Rail Competition

Presently only two railroads, Union Pacific Railroad Company (UP) and BNSF Railroad, serve the PRB. Both UP and BNSF can reach the PRB from the south along the Joint Line, and BNSF also has access from the north. This arrangement offers a certain level of competition. However, depending on the destination of coal being shipped, a customer may have only single-carrier access because, as discussed in the Draft EIS, only one carrier serves a particular geographic market, or only one carrier offers a route direct enough to be economically competitive. Therefore, although the Joint Line provides competitive access to the PRB, competitive access for individual utility customers generally does not currently exist.

[13] Submission of Union Pacific Railroad Company, STB Ex Parte No. 657 (Sub-No.1), Major Issues in Rail Rate Cases, p. 8, May 1 2006

[14] Russell. A. Carter, Future Uncertainty Demands Changes in Coal Transport, Marketing, Coal Age, December, 1999.

[15] Annual Energy Outlook 2001 - With Projections to 2020, U.S. Department of Energy, Energy Information Administration, December, 2000.

DM&E has stated that the proposed project would increase rail competition by giving another rail carrier access to the PRB mines.[16] Although DM&E does not have direct connections with significant coal-using facilities, its eastern connections with five other rail carriers, including UP and BNSF, could provide utilities access to a rail carrier with a shorter transportation route than their current carriers if the PRB Expansion Project is approved and implemented. In that event, utilities trying to reduce fuel and transportation costs may elect to have DM&E transport their coal from the PRB to an interchange point with their current carrier for final transport to the generating facility.

Such alternative routes could increase utilities' coal transport options in areas served by more than one of these railroads, resulting in competition between DM&E and UP, DM&E and BNSF, or among all three, depending on electric utility location. In fact, in its December 10, 1998 decision, the Board stated that DM&E could likely obtain from 30 to 60 percent of the coal-transport business in the various markets DM&E identified in its Application. Additionally, the Board indicated that DM&E would likely become the dominant carrier of coal to the Upper Midwest, the region DM&E has identified as its primary market, due to mileage advantages offered by its system in this region.

If the PRB Expansion Project is constructed, UP and BNSF would continue to transport coal to their current exclusive markets (Montana, northern Arizona, and large portions of Washington for BNSF; Nevada, southern Arizona, and large portions of Idaho and Texas for UP) and compete in markets where each provides service (California, Oregon, Kansas, Missouri, Oklahoma and eastern Texas). Increased rail competition from DM&E on its shorter route could result in reduced transportation costs for utilities in DM&E's core markets, thereby reducing total fuel costs for the generation of electricity as discussed previously. Reduced overall energy generation costs could result in cheaper or more stable energy costs for electricity consumers, including commercial, industrial, and residential users.

3.2.6 Safe and Reliable Rail Service

While the first RRIF loan to the DM&E has funded infrastructure improvements on portions of DM&E and IC&E lines, much of these railroad lines remain deteriorated and pose safety and service problems, as discussed in the Draft EIS. The available data indicates that DM&E's accident rate remains among the highest in the rail industry, although it is declining. Table 3-1 compares DM&E's accident rate to the average for the rail industry.

[16] Gerald Vaninetti, Coal Train Blues, Electric Perspectives, July/August 1997; Rebecca Smith and Daniel Machalaba, As Utilities Seek More Coal, Railroads Struggle to Deliver, Wall Street Journal. March 15, 2006.

TABLE 3-1
COMPARISON OF DM&E ACCIDENT RATES TO RAIL INDUSTRY AVERAGES (1992 – 2005)

Year	DM&E (Accident rate per million train miles)	Rail Industry Average (Accident rate per million train miles)
1992	46.50	3.94
1993	46.77	4.21
1994	53.05	3.76
1995	41.41	3.63
1996	36.00	3.60
1997	38.39	3.49
1998	23.79	3.78
1999	14.85	3.91
2000	28.63	4.09
2001	19.40	4.22
2002	21.25	3.73
2003	27.26	4.01
2004	57.11	4.29
2005	30.32	3.89

Source: FRA Safety Database, Safety Data Website

Industry-wide, train accidents have remained relatively steady, varying between a low of 3.49 per million train miles in 1997 and a high of 4.29 in 2004, much lower than accident rates experienced by DM&E, with accident rates ranging from a low of 14.85 in 1999 to a high of 57.11 in 2004.

The safety of DM&E's operations has been of concern to the FRA for some time. The number of employee injuries on DM&E's system increased 93% from 2003 to 2004, and increased 11.1% from 2004 to 2005. The number of track-caused derailments increased 107.7% from 2003 to 2004. In response to these and other concerns, FRA initiated a series of system-wide, on-site inspections to determine the level of DM&E's compliance with FRA safety regulations regarding Railroad Operating Rules and Federal Track Safety Standards.

In addition, FRA conducted inspections of DM&E's highway-rail grade crossing warning systems and related records to determine DM&E's compliance with FRA's Grade Crossing Signal System Safety standards. FRA also completed bridge evaluations to determine if DM&E's bridge inspection and management practices met the recommendations in FRA's Bridge Policy. FRA identified deficiencies in a number of areas. FRA and DM&E maintained an active and open dialogue in light of FRA's findings and DM&E initiated steps to address FRA's concerns. In order to provide a structure to DM&E's response, FRA and DM&E entered into an October 18, 2005 Safety Compliance Agreement that identifies in detail the actions to be undertaken by DM&E regarding railroad operating rules, Federal track safety standards, grade crossing signal system safety and FRA's Bridge Policy.

FRA has also supported DM&E's efforts to improve the condition of its facilities through a previous RRIF direct loan. In January 2004, FRA provided a $233 million federal loan to DM&E that was to be used for among other things improvements to the rail lines between Wolsey, SD and Tracy, MN, improvement to rail bridges between Wolsey, SD and Springfield, MN and rehabilitation of the tracks from Owatonna, MN to Mason City, IA and from Lawler, IA to Calmar, IA. The loan also afforded DM&E the opportunity to use its enhanced cash flow, resulting from the refinancing of existing debt on substantially better terms, for an expanded program of infrastructure investment to address deferred maintenance and make other capital improvements. The loan allowed DM&E to make a significant start on the upgrading of the railroad, particularly in the heaviest traffic density area of eastern South Dakota and western Minnesota and put DM&E on a stronger financial footing so that it could raise its future commitments of capital expenditures.

With projected increases in the revenue base from the Project, DM&E believes it could improve existing rail infrastructure and fund major grade crossing and right-of-way protection enhancements, providing badly needed safety and service improvements for DM&E's shippers, and for future rail service needs. DM&E states that it could make these improvements only with the influx of capital made possible through the PRB Expansion Project.

3.2.7 Conclusion

The STB determined that the proposed PRB Expansion Project would provide DM&E the opportunity to expand its existing system into the PRB, thus capitalizing on the increasing demand for PRB coal. The PRB Expansion Project would generate the revenue necessary for rehabilitation of DM&E's existing system while also improving rail service for DM&E's existing shippers. Additionally, the project would provide increased regional rail capacity and competition; thereby enabling the PRB mines and railroads to meet the projected increased demand for PRB coal.

In conclusion, the STB found and the FRA agrees that the DM&E rail infrastructure is in need of system-wide rehabilitation to provide safe rail transportation, but such improvements require a substantial financial investment. National policies such as deregulation of the electric-utility industry (encouraging utilities to explore ways to reduce costs, including fuel) and the CAAA (requiring reductions in sulfur dioxide), coupled with projected increase in energy consumption, are creating a growing demand for PRB coal. This demand requires

increases in rail capacity and rail competition in the PRB to ensure increased, reliable, and efficient transport of PRB coal to utility users.

The FRA conducted a review of the STB's EIS for the purpose of adoption pursuant to 40 C.F.R. 1506.3 and found that the actions encompassed by the DM&E PRB Project RRIF application are covered by the STB's EIS and SEIS, that the EIS and SEIS adequately assess the environmental impacts associated with the Project and meet the standards of the Council on Environmental Quality (CEQ) NEPA Regulation, and that the EIS and SEIS can be adopted by the FRA.

CHAPTER 4
PROJECT ALTERNATIVES

The PRB Expansion Project EIS describes in detail the process followed, considerations included and efforts made to establish the alignment alternatives and avoid or minimize effects on environmental resources including properties that are covered by Section 303. Through the course of the EIS, input was received and considered from cooperating agencies, participating agencies, and other Federal, Tribal, state and local agencies or governmental units and the public on potential effects, mitigation and environmental resource issues. Much of the discussion concerning the various alternative routes was based on Section 303 resources though not in the context of a specific Section 303 review. Chapters 3 and 4 of the FEIS provide detailed information on alternatives formulation and development. Appendix C contains a copy of these chapters for reference.

4.1 ALTERNATIVES FOR THE EXISTING RAIL LINE CONSIDERED BY STB

4.1.1 Summary of Alternatives

The rehabilitation of DM&E's existing line does not require approval from STB under 49 U.S.C. 10901. However, because the rehabilitation of DM&E's existing line would not occur to the extent required to transport large volumes of coal but for the expansion of DM&E's system the environmental analysis in the EIS covered the projected rehabilitation and increased use of approximately 600 miles of the existing line. Various alternative routings, including construction and operation of bypass alternatives proposed by some of the communities along the existing line and by DM&E to avoid operational conflicts with a competing railroad, for handling the traffic were also evaluated for the existing line. However, these bypass alternatives represented only a small portion of the entire existing rail alignment proposed for rehabilitation. No construction alternatives were proposed or evaluated for the remainder of the existing rail line as no reasonable or prudent alternatives were identified.

The No-Action Alternative would result from the Board's denial of DM&E's Application to construct and operate a new rail line into the PRB. While DM&E would not be restricted from rehabilitation and reconstruction of the existing rail line, no new construction outside the existing rail right-of-way would be approved. DM&E has stated that it is unlikely that it could undertake rehabilitation of the scope discussed in the EIS without expansion into the PRB.

4.1.2 Identification of the Preferred Alternative

As noted above, the STB, as part of the EIS for the PRB Project, identified only action and no-action alternatives for the rehabilitation of DM&E's existing rail line. The FEIS designated rehabilitation of DM&E's existing rail line as the Action Alternative, should the Board grant DM&E approval for construction and operation of the PRB Expansion Project. In this case, if STB selected construction of the PRB Project as the preferred alternative and

granted DM&E authority to construct the PRB Project, such authority would result in the implementation of the Action Alternative for the existing rail line. As explained in the FEIS, an upgraded, rehabilitated rail line could offer safety benefits to DM&E's existing rail operations and enhance safety in the communities and surrounding rural areas through which DM&E operates. Under the Action Alternative, DM&E would add a maximum of 34 unit coal trains per day to its current rail operations. After thorough consideration of the proposed project, the STB, in Decisions in 2002 and 2006, granted DM&E authority to construct the Project along a specified alignment, as this alternative, although not without significant environmental impacts, was considered environmentally preferable to other new construction alignments and the no-action alternative.

4.2 ALTERNATIVES CONSIDERED FOR THE RAIL LINE EXTENSION

4.2.1 Summary of Alternatives

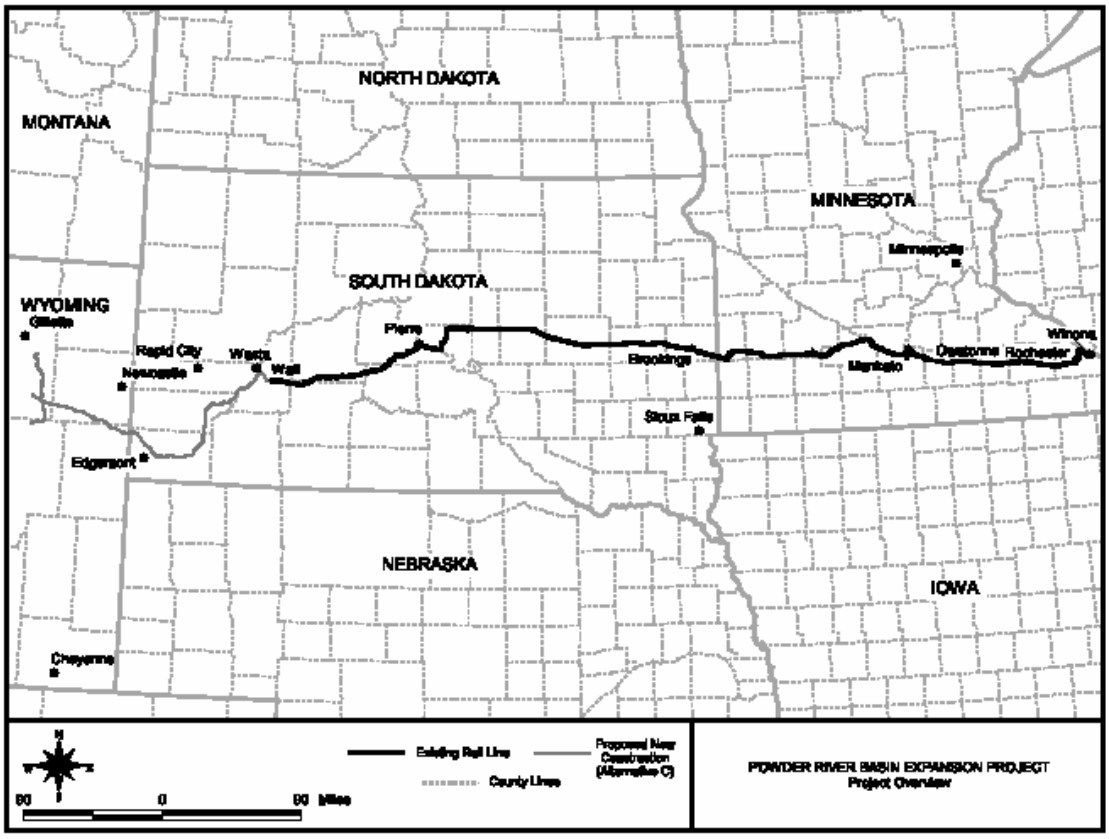
The four major alternatives for the rail line extension where:

- Alternative A – the No-Action Alternative (i.e., no authorization for DM&E to construct and operate a rail line extension into the PRB).
- Alternative B - the route proposed by DM&E in its Application.
- Alternative C - the route subsequently developed based on STB, cooperating agency, SHPO, and other consultation. It avoided environmentally sensitive areas and resources, including cultural and historic and other Section 303 resources, to a greater extent than Alternative B.
- Alternative D - an alternative that, although about 100 miles longer than Alternatives B and C, would use existing rail transportation corridors to the extent practicable.

4.2.2 Identification of the Preferred Alternative

Upon completion of the environmental analysis for the Draft EIS and consideration of comments received on the Draft EIS, SEA identified the preferred alternative for each project component. This selection process considered all potential environmental impacts to the wide range of natural and human resources SEA evaluated while preparing the Draft EIS and Final EIS.

Figure 2 – STB's Selected PRB Project Alternative C



Based on the information developed for the Draft EIS, comments received on the Draft EIS, and subsequent information developed for the FEIS, SEA indicated that Alternative D would not further the purposes of the Applicant and would also have the most significant environmental impacts because of the extraordinary earthwork required and impacts on resources resulting from the construction. SEA also determined that Alternative B would have greater potential impacts to the various resources than Alternative C, which was specifically developed to avoid or minimize impacts to sensitive natural and human resources. As a result, SEA concluded that if the new construction received final approval, Alternative C appeared to be the least environmentally intrusive action alternative for the new line extension in Wyoming and western South Dakota.[17]

DM&E and resource agencies developed variations of Alternative C to avoid or minimize impacts to resources. These variations were developed to minimize impacts to the Cheyenne River, wildlife resources, paleontological resources, Angostura Irrigation District facilities, and land use. SEA identified environmentally preferable alternatives among each of the alignment variations evaluated in the EIS. As discussed in detail in the Final EIS, SEA's

[17] The USFS indicated for the Draft EIS that its preferred alternative was the No-Action Alternative. However, USFS acknowledged that DM&E's proposal may have a broader, national interest. Therefore, USFS reasoned that if the Board should determine that DM&E's proposal is in the national interest and ultimately approve the project, the USFS preferred alternative was Alternative C.

environmentally preferable alternative for the proposed new construction included Alternative Route C, combined with the Phiney Flat Alternative, WG Divide Alternative, Black Thunder North Mine Loop, and the North Antelope East Mine Loop. SEA identified rehabilitation of the existing rail line as environmentally preferable to construction of various bypass routes proposed by Pierre and Brookings, South Dakota and Rochester, Minnesota. SEA also recommended the route along the existing rail line through Owatonna (O-5) with a new connection to the IC&E and along existing rail line through Mankato (M-3), Minnesota. However, as these alternatives can not be implemented without agreements from UP, SEA also identified as preferable the reconstruction of existing track with a new 1.7 mile connector in Owatonna (O-4) and the Southern Mankato Route (M-2) for these locations, respectively. Rehabilitation of the existing rail bridge over the Missouri River and rehabilitation of the remainder of DM&E's existing mainline between Winona, Minnesota and Wall, South Dakota were identified as environmentally preferable alternatives. Finally, SEA recommended Option B for the Middle East Staging and Marshalling Yard and Option B for the West Staging and Marshalling Yard as the environmentally preferable alternatives. In its Decision served January 30, 2002, the Board agreed and selected the preferred alternatives and granted construction and operation authority based on the use of these alternatives.

CHAPTER 5
SECTION 303 PROPERTIES

5.1 SECTION 106 PROPERTIES SUBJECT TO SECTION 303

Throughout the NEPA process, SEA conducted extensive consultation with the cooperating agencies, SHPOs and other governmental agencies having jurisdiction and interest in a wide variety of natural and human resources. These resources included many historic and archaeological resources under the National Historic Preservation Act (NHPA), Section 106. These resources are subject to the NHPA when they meet one or more of the following criteria for listing in the National Register of Historic Places.

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded or may be likely to yield, information important in prehistory or history.

Many of these resources, which were identified in the EIS, also qualify as Section 303 properties. Those Section 106 resources that are also Section 303 properties are discussed below in Section 5.2 and include:

- Existing NHRP eligible bridges on the existing rail line
- Other eligible historic structures along the rail line
- Archaeological sites
- Traditional Cultural Properties (TCPs)

This Section identifies these resources that are present in the Project corridor.

5.1.1 Bridges, Culverts, and Others

Existing bridges, culverts, and other track related structures eligible for the National Register along DM&E's existing rail line proposed for rehabilitation in Minnesota and South Dakota are summarized below. See also Appendix D for a complete listing of potentially historic bridges, eligibility determination and planned disposition. Some of the bridges listed in Appendix D in the Project area were determined not eligible possibly because they were less that 50 years old at the time the EIS was prepared. One steel deck plate girder bridge in Minnesota, and 29 timber bridges, 20 in Minnesota and nine in South Dakota, have become 50 years old since the EIS was prepared. It is not known at this time if these bridges might

be eligible for the NRHP. However, the conclusions in the Statement for each bridge type would apply to these additional bridges and they will be considered through the process of identification required in the PA.

5.1.1.1 Bridges

In Minnesota the EIS identified 298 bridges "eligible" for the NRHP. In South Dakota, 164 were identified as eligible. These bridges are classified, categorized and discussed below and were discussed in more detail in the Draft EIS (Appendix N).

Timber Bridges - A total of 49 timber bridges in Minnesota and 87 timber bridges in South Dakota are considered eligible for listing in the NRHP by the SHPOs. All of these structures are of the same relative style "Open Deck Pile Trestle", and generally span approximately 13 feet or consist of multiple spans of 13 feet in length.

Steel - A total of 70 steel bridges in Minnesota and 53 steel bridges in South Dakota are considered eligible for listing in the NRHP by the SHPOs. These steel bridge main spans fall primarily into the following structural groups; I-beam, through-plate girder, deck-plate girder, through-truss and deck-truss. In each of those categories they can be summarized and discussed as a functionally equivalent group, all requiring the same treatment.

I-Beam – 32 of the 70 eligible steel bridges in Minnesota and 4 of the 53 eligible steel bridges in South Dakota are "I-beam" structures. These structure types are light cross-section steel beam sets with diaphragms or stiffeners so they act as a composite structural member and generally span less than 25 feet. They are primarily bearing on either a steel bridge shoe or steel plate on top of a masonry bridge seat or timber cap and pier.

Through-plate Girder – 18 of the 70 eligible steel bridges in Minnesota and 17 of the 53 eligible steel bridges in South Dakota are "through-plate girder" structures. These structure types are built-up or fabricated steel members generally spanning 30 to 80 feet of opening with the steel structure above the top of rail.

Deck-plate Girder – 17 of the 70 eligible steel bridges in Minnesota and 12 of the 53 eligible steel bridges in South Dakota are "deck-plate" girder structures. These structure types are generally the same as the through-plate girder except the entire steel girder structure is below the top of rail or deck and predominantly span in the range of 30 to 50 feet.

Through-truss – 2 of the 70 eligible steel bridges in Minnesota and 19 of the 53 eligible steel bridges in South Dakota are "through-truss" structures, spanning approximately 140 to 160 feet in length in Minnesota and 127 to 445 feet in length in South Dakota. These structure types are characterized by the train traveling through the structure.

Deck-truss – 1 of the 70 eligible steel bridges in Minnesota is a "deck-truss" structure, spanning approximately 129 feet in length. This structure type is similar to the through truss but the entire structure is located below the deck (i.e., below the top of rail).

5.1.1.2 Stone Box Culverts

A total of 159 stone box culverts in Minnesota and 25 stone box culverts in South Dakota are considered eligible for listing in the NRHP by the SHPOs. These structures are generally short (approximately 4 to 8 feet) in length, constructed of cut stone built in box fashion with two walls and a stone lid.

5.1.1.3 Stone Arch Bridges

A total of 15 stone arch bridges in Minnesota are considered eligible for listing in the NRHP by the SHPO, with spans ranging from 10 to 32 feet. These structures consist of quarried stone configured in an arch.

5.1.1.4 Concrete Bridges

A total of 2 concrete bridges in Minnesota are considered eligible for listing in the NRHP by the SHPO. Both of these structures are reinforced box culverts.

5.1.1.5 Miscellaneous Bridges and Culverts

A total of 3 other bridges in Minnesota are considered eligible for listing in the NRHP by the SHPO. These structures include 1 concrete and I-beam bridge and 2 cast iron pipe culverts.

5.1.2 Other Eligible Structures

The EIS and Section 106 processes identified 5 NRHP eligible buildings in Minnesota and 7 in South Dakota (see Draft EIS Appendix N). These structures are listed below. The project does not include plans to alter any of these buildings.

NRHP eligible buildings identified included:

(a) Minnesota

MP	NAME	NRHP ELIGIBLE
179.90	Winona & St. Peter Freight Depot	Listed
165.20	C&NW Depot, New Ulm*	Listed
179.80	C&NW Depot, Sleepy Eye	Listed
102.5	C&NW Passenger Station, Waseca* (DM&E Building 904)	Yes
253.70	Tyler Grain Building	Yes

(b) South Dakota

		NRHP

MP	NAME	ELIGIBLE
291.00	C&NW Depot, Brookings (DM&E Building 916)	Yes
329.50	C&NW Depot, DeSmet	Yes
384.70	Quinn Stockyards	Yes
362.60	Huron Roundhouse* (DM&E Building 921)	Listed
362.60	Huron Roundhouse Office*	Listed
321.00	Lake Preston Freight House	Yes
402.80	Miller Freight House	Yes

*DM&E currently occupies these buildings and has no plans to make any changes.

There is no need or plans to alter any of the structures not owned by DM&E as part of the proposed rail construction, operation or rehabilitation.

5.1.3 Cultural Resources

5.1.3.1 Archaeological Sites

Intensive archaeological surveys have been performed for all of the existing rail line in South Dakota. Although the majority of the new rail line alignment in South Dakota has been surveyed (except for areas where landowner access could not be obtained), final evaluations and recommendations and reports have not yet been completed. Additionally, field efforts for reconnaissance level surveys for substantial portions of the existing rail line in Minnesota have been completed. Although evaluations, recommendations and reports for some of these surveys have not yet been completed, the results of these surveys were used for the evaluation of potential effects to archaeological resources during the EIS process. The scope of the project (over 200 miles of new construction and 600 miles of rehabilitation) and landowner access issues precluded completion of intensive surveys for the entire project. Therefore, as discussed previously, a PA was developed to ensure that identification of cultural resources, considerations and alternatives for avoidance, and, if necessary, appropriate mitigation are completed as part of project construction and operation. Additional archaeological surveys shall be performed pursuant to the PA and attached identification plan.

Archaeological sites eligible for the NRHP under Criteria A, B, or C, are potential Section 303 resources. Sites eligible for NRHP listing under Criteria D alone are not subject to Section 303 analysis.[18] Based on preliminary review of the results of archaeological surveys completed to-date, all archaeological sites potentially eligible for the NRHP that would potentially be affected by the proposed project are eligible solely under Criteria D.

[18] NRHP Eligibility Criteria are as follows: A = Site has an association with significant events; B = Site has an association with significant people; C = Site has distinctive design or construction (distinctive construction characteristics, work of a master, a distinguishable entity); D = Site has potential to provide significant information. See also 23 C.F.R. §771.135(g)(2).

According to the PA, additional surveys will be completed prior to construction of the rail line extension as well as specific areas of previously undisturbed land along the existing rail line. The PA, as discussed previously in Section 2.2.2, describes the methodology for identifying eligible resources, determining effects, evaluating avoidance alternatives, development of treatment plans (mitigation), documentation and public involvement to satisfy Section 106 NHPA requirements.

5.1.3.2 Traditional Cultural Properties

Coordination with various Native American Indian Tribes was performed to identify locations of TCPs. At this time, TCPs are anticipated to occur within and along the preferred alternative for the new rail line extension. Exact number and locations are not currently known. No TCPs are anticipated to exist on the existing rail line, however, some may be within the area of potential effect of the existing rail line. The PA describes the methodology for identifying eligible resources, determining effects, evaluating alternatives for avoidance, development of treatment plans (mitigation), documentation and public involvement to satisfy Section 106 NHPA requirements with respect to the TCPs.

5.2 OTHER SECTION 303 PROPERTIES

This Section identifies other potential Section 303 properties that are in or near the Project Area, and were analyzed in the EIS, but not considered as 106 properties. While the EIS study area included broad geographic zones, such as the counties through which the existing rail line and the proposed new construction alternatives extended for such analysis as socioeconomics, the Project Area generally included only land immediately adjacent to the existing and proposed rail lines.

FRA has evaluated all public lands identified in the Draft EIS for their potential as Section 303 properties. These properties were then reviewed relative to their location in respect to the Project. All properties that exist within the Project Area or that are located within 1 mile of the Project Area were identified and evaluated in the Draft EIS and are considered as potential Section 303 properties.

The type of use that occurs on these properties was considered to determine if they qualify as a Section 303 property. The following types of properties were identified that would qualify as a Section 303 property:

- Wildlife and waterfowl refuges
- Public recreation areas (National, State, and local parks)
- Public use bicycle/pedestrian trails

A comprehensive listing of the Federal, State, and local properties evaluated for the Project and determination of qualification of a Section 303 property are presented in Appendix E. Of the eighty-seven listed resources only two Section 303 uses have been identified and both of these involve temporary trail closures.

The following properties were determined not to be subject to Section 303 for the associated reasons:

- United State Forest Service (USFS) Buffalo Gap National Grasslands and Thunder Basin National Grasslands – The primary purpose of these areas are the management of and use for livestock grazing. Only casual public recreation is provided, and in some instances public access is not possible without access to private property. No formal recreational components, such as camping sites, hiking trails, or other public amenities, are provided. These areas are not managed as wildlife or waterfowl refuges.
- USFS Roadless Area Review and Evaluation (RARE II) properties and Inventoried Roadless areas – These areas are candidates for possible inclusion into the National Wilderness Preservation System. The three RARE II areas and three Inventoried Roadless areas are within the Buffalo Gap National Grassland, and therefore, do not have a primary recreation component and are not established as a wildlife refuge. The Project would not cross these areas.
- Bureau of Land Management (BLM) properties – These properties are leased to private entities for the purpose of and used for livestock grazing. Similar uses as those discussed above for USFS lands apply. Additionally, BLM lands crossed by the Project are managed for multiple use, including mineral extraction and ancillary facilities, such as rail lines.
- Bureau of Reclamation (BOR) Facilities – These facilities, including primarily irrigation canals and related facilities and adjacent lands, while owned by the Federal government and are thereby public in nature, do not have a recreation or wildlife or waterfowl component associated with them as they are solely intended for irrigation purposes.
- State of Wyoming, Office of State Lands and Investments – These properties are owned by the State of Wyoming and subject to leases to private entities for the purpose of livestock grazing.
- United States Fish and Wildlife Service (USFWS) Wildlife Easements – These areas are privately owned land with temporary or permanent easements by the USFWS for the purposes of wildlife habitat. As these are not publicly owned lands, they do not qualify as Section 303 properties.

CHAPTER 6
USES OF THE SECTION 303 PROPERTIES

A use occurs when a property protected by Section 303 is permanently incorporated into a transportation facility or is temporarily occupied, causing minor effects that are subsequently restored. Removal of a historic property is considered a direct use. A *de minimis* use occurs when the impacts of a project on publicly owned parks, recreation areas, and wildlife and waterfowl refuges do not adversely affect the activities, features and attributes of the particular resource.[19]

Proximity effects may be considered in determining if a use occurs when a project does not clearly incorporate (or remove) a property protected by Section 303 but is so close to the property and has so significant an effect that the activities, features, or attributes of the property are substantially impaired. Five criteria are used to evaluate this type of use:

- Noise
- Aesthetic characteristics of the property
- Property access
- Vibration
- Ecological intrusion, such as substantially diminished wildlife habitat

No Section 303 properties have been identified on the rail line extension. Various alternative alignments for construction of the new rail line were evaluated by SEA in the EIS, as previously discussed, and the STB approved construction of Alternative C, which was determined to impact fewer archaeological sites. To the extent archaeological sites may qualify as Section 303 properties, STB has approved an alternative expected to avoid archaeological resources to a greater extent than other alternatives and has developed a PA, in which the FRA is seeking to participate, requiring consideration of avoidance of archaeological sites as part of development of plans for the treatment of any such sites within the area of potential effect for the new construction. Section 303 properties have been identified on the existing rail line to be rehabilitated as described below.

6.1 SECTION 106 PROPERTIES SUBJECT TO SECTION 303

6.1.1 Bridges and Culverts

DM&E considered the bridges and culverts along its existing rail line determined to be eligible for the NRHP and provided their assessment regarding the suitability of the bridges for the proposed project, and if they would require rehabilitation or replacement in order to

[19] USDOT FHWA – Questions and Answers on the Application of the Section 4(f) *De Minimis* Impacts Criteria. The cover memorandum for this document explains, "This guidance will be incorporated in a future revision of the Section 4(f) Policy Paper. Although the Section 4(f) Policy Paper was developed by FHWA, FTA and other modal administrations generally follow the guidance, where appropriate and applicable to transit projects and other proposals."

accommodate the rail traffic that would result from the proposed project. DM&E provided the 'Disposition' and 'Class Type' fields in Appendix D tables of bridges and additional information on timber and steel bridges in Appendix F. DM&E determined all of the 136 and the 29 additional timber and all of the 36 steel I-beam bridges would have to be replaced. Although DM&E indicated a disposition in Appendix D, the disposition of the 35 through-plate girder, the 29-30 deck-plate girder bridges, 22 through-truss and deck-truss structures has not been finalized and would be made during the design-build phase of the project based on best engineering practices. All of the 184 stone box culverts would need to be replaced. All but one of the 15 stone arch bridges would likely be retained, but these bridges would require a wing wall to make them sufficient for continued use. Both concrete bridges would need to be replaced as well as the three miscellaneous bridges and culverts. Replacement actions would result in direct uses of Section 303 properties. For a discussion of avoidance alternatives and measures to minimize harm, see Chapter 7.0, Avoidance Alternatives and Chapter 8, Measures to Minimize Harm, respectively.

Because conclusive decisions with respect to through-plate girder, deck-plate girder bridges, through-truss, and deck-truss bridges cannot be made at this time but will be appropriately made during the design-build stage when additional bridge-specific information will be available, FRA anticipates having a continuing involvement to ensure that the Section 303 standards continue to be applied to the decisions on the future disposition of these bridges.

FRA will address this role in two ways. First, as noted above, FRA has discussed with the STB, the Advisory Council on Historic Preservation and the SHPO's of South Dakota, Minnesota, and Wyoming, the possibility that FRA be added as a consulting party to the PA. Becoming a consulting party to the PA would allow FRA to participate with the other consulting parties in decision making with respect to section 303 historic resources. Each of these entities reacted favorably to this suggestion so FRA will work with the parties to amend the PA to add FRA. Second, should FRA decide to approve the DM&E's loan application, FRA would include as one of the conditions in the loan documents a requirement that FRA's written approval be obtained with respect to the proposed action to be taken at any of the bridges for which decisions regarding the future action are not made in this section 303 statement. FRA's approval would have to be obtained at a point prior to the taking of any irretrievable action with respect to the particular bridge. FRA would require DM&E to supply supporting documentation consistent with the section 303 standards to enable the FRA to make the appropriate determination consistent with the standards outlined in this section 303 statement.

6.1.2 Other Eligible Structures

The five NRHP eligible buildings in Minnesota and seven in South Dakota would not be altered as a result of the Project (see Draft EIS, Appendix N). The project does not include plans to alter any of the buildings on the list. Therefore, no direct use of these properties would occur. Further, the structural integrity of these structures would not be compromised from an increase in train traffic and associated increase in vibration. As a result of comments received on the Draft EIS concerning impacts to residential structures near the rail line as a result of increase in vibration, SEA conducted extensive vibration analysis for the Final EIS. SEA concluded that structures as close as 50 feet from the track would not be damaged by

ground vibrations from trains (Chapter 4, Draft SEIS) and vibration levels would be nearly if not imperceptible to humans. In addition, the eligible structures are all associated with past or current railroad activities, were originally built next to the rail line and were likely built to suit their location.

Relative to proximity effects, these structures are all within or adjacent to the existing railroad right-of-way. While noise levels would increase as a result of the Project, this increase would not result in a substantial impairment to the use or nature of the property, nor would it be out of the railroad context within which these structures were built and historically operated. Neither access to the property or the aesthetic setting of the property would be altered. No increases in vibration resulting in substantial impairment to the property would occur as a result of the Project.

6.1.3 Cultural Resources

While it is known that archaeological sites and TCPs exist in the project corridor, at this time, the potential for direct uses of these resources is not known. Once preliminary engineering of the rail line extension is developed, additional surveys will be completed, potential eligibility for listing on the NRHP determined, opportunities for avoidance of these resources evaluated, and the extent of direct uses to archaeological sites and TCPs identified, including those determined to be Section 303 properties. The PA describes the methodology for determining effects, development of treatment plans (mitigation), evaluating avoidance alternatives, documentation, and public involvement to satisfy Section 106 NHPA requirements. As discussed above in section 6.1.1, FRA will have a continuing involvement through the PA process with respect to any uses of TCPs.

6.2 OTHER SECTION 303 PROPERTIES

A determination of potential uses associated with each other eligible Section 303 property is provided in Appendix E. The following describes the uses[20] and any potential proximity effects associated with the Project. Publicly owned parks, recreation areas, and wildlife and waterfowl refuges near new infrastructure elements along the existing rail line, such as staging and marshaling yards, were evaluated in the EIS and the STB's selected alternative avoided uses other than limited uses of three recreational trails. STB also found that new project elements along the existing rail line, such as staging and marshaling yards, would not affect Section 106 resources.

Only one Section 303 property, Minneopa State Park west of Mankato, MN, was within or near a staging or marshaling yard. Two options were presented for this staging and marshaling yard: Option A) located along the existing rail line between Minneopa State Park and Judson, MN and; Option B) located along the existing rail line 10 miles west of Minneopa State Park near New Ulm, MN. The STB determined that Option B was preferable

[20] Section 6.2.1 and 6.2.2 indicate that no direct use of a Section 303 property in the form of a conversion to a non-park or non-recreation use would occur as a result of the Project. Therefore, Section 6(f) of the Land and Water Conservation Fund Act of 1965 would not apply, regardless if parks and recreation areas adjacent to or near the existing or proposed rail line were established with Federal land and water grant funds.

as it would avoid the Minneopa State Park area and approved yard construction at this location. Thus a potential use of this Section 303 property due to yard construction and operation activities was successfully avoided.

6.2.1 Recreational Trails

Uses of recreation trails as Section 303 properties by the Project are associated only with the temporary closures of recreational trails. No permanent trail closures would occur as a result of the Project. One trail is near the existing DM&E rail line in Minnesota (Sakatah Singing Hills State Trail) and three trails are near or would be crossed in South Dakota (Missouri River Trail, La Framboise Island National Recreational Trail, and Cottonwood Path).

Sakatah Singing Hills State Trail – No use of this property would occur if the Mankato South Route (M-2) is implemented, which would not cross this trail. Should the Mankato Existing Rail Line alternative (M-3) be implemented, rehabilitation of the existing rail line would likely result in temporary trail closure or detour during rehabilitation activities. However, rehabilitation activities would likely only require trail closure for periods of one day or less. Increased rail activity would cause some delays for trail users, however, trail access would not be altered. While noise levels in the vicinity of the trail/rail crossing would increase, these changes would not substantially impair the use of the trail.

Missouri River Trail – This trail is a part of Farm Island State Recreation Area. A use of this property would result due to a temporary closure of the trail during rehabilitation of the existing rail line. This trail provides access, including vehicular, to Farm Island Recreational Areas. Construction would allow for trail crossings as construction is estimated to take periods of less than one day at the trail crossing. As existing rail line operations are present, no changes in aesthetics would occur. Increased rail activity would cause some delays for trail users, however, trail access would not be altered. While noise levels in the vicinity of the trail/rail crossing would increase, these changes would not substantially impair the use of the trail.

La Framboise Island National Recreational Trail - No use of this property would result as the current alignment does not cross this trail.

Cottonwood Path - A use of this property would result due to a temporary closure of the trail during construction. The trail would only be closed when overhead work is required. Construction of this trail crossing is anticipated to take 32 weeks. However, trail closures would be in 4-week periods, with the trail closed for 4 weeks then open for 4 weeks, and so on for the 32-week construction period. A temporary detour has been identified and would be approximately 5,000 feet long. As existing rail line operations are present, no changes in aesthetics would occur. Increased rail activity would increase noise levels in the vicinity of the trail/rail crossing. However, these changes would not substantially impair the use of the trail.

6.2.2 Wildlife Refuges, State and Local Parks

Proximity effects were evaluated for the following Section 303 property types:

- USFWS Wildlife refuges

- USFWS Waterfowl Production Areas
- Minnesota State Wildlife Management Areas
- Minnesota and South Dakota State Parks
- South Dakota State Game Production Areas
- Minnesota and South Dakota local county parks

Several of these areas are located within one mile of the existing rail line. No new right-of-way would be required from any of these areas, thus uses of the properties are not anticipated. However, each area was evaluated for potential proximity effects. Factors such as each properties primary functions and amenities were considered in relation to the properties location to the existing rail line and, proposed relocated rail line, or rail facility. The five proximity effect factors were applied.

Wildlife Refuges, Waterfowl Production Areas, Wildlife Management Areas – These wildlife and waterfowl refuges are located along the existing rail line. Changes in the rail line activities would include increased trains per day. However, an increase in quantity of train traffic would not create an intrusion on the existing habitat that would substantially diminish the wildlife habitat of the property. While noise levels are likely to increase as a result of operations of the Project, no significant effects to wildlife species were expected as a result of increased noise levels (Draft EIS, 2000). Due to the presence of the existing rail line and associated noise intrusions, existing wildlife using these areas have adapted to the rail line. Increases in noise may cause a relocation of some waterfowl nests further away from the rail line, but loss of nesting habitat is not anticipated. However, the improved rail line operations would reduce the likelihood of a derailment, thereby reducing the potential for disturbance to a wildlife refuge area due to cleanup of the derailment. Therefore, no uses were identified from proximity effects on these properties.

State and Local Parks – State and local parks that are within one mile of the Project were considered for proximity effects imposed by the Project in STB's EIS. Generally, these parks include local city and county parks. These parks feature day use facilities such as picnic shelters, playgrounds, athletic fields, and open space areas. Minneopa State Park provides day-use and camping facilities, and Reconciliation Park contains a white buffalo monument commemorating the execution of Sioux warriors and the subsequent reconciliation of the parties to the conflict. These parks are adjacent to the existing rail lines as well as roadways, from local streets to major highways, and coexist with road and railroad transportation activities. Aesthetics would not be compromised, as there is already a rail line in place and the upgraded rail line would not differ in appearance or function. No state or local parks are within one mile of the new construction alignment. No changes in access to state or local parks would be required.

The existing rail operations and other adjacent noise sources including highways expose State and local parks and recreational areas to noise impacts similar to those expected from operation of the Project (Draft EIS, 2000). While noise impacts would be related to an individual's perception of the recreational experience provided at a given location, the

Project operations are not projected to exceed the STB's noise impact criteria for these resources.

CHAPTER 7
AVOIDANCE ALTERNATIVES

7.1 SECTION 106 RESOURCES SUBJECT TO SECTION 303

As a general matter, the Section 303 analysis requires a more rigorous evaluation of alternatives than Section 106. Specifically, Section 106 requires only that effects on historic properties be considered and that the SHPO or the Tribal Historic Preservation Officer (THPO), as well as the Advisory Council on Historic Preservation (ACHP) if necessary, be afforded the opportunity to comment. Section 303, in contrast, requires that historic properties be used only if there is no prudent and feasible alternative. Even though Section 303 was not specifically addressed by STB, the Section 106 analysis documented in the EIS did evaluate feasible alternatives in consultation with the SHPOs and appropriate government agencies with jurisdiction over resources that are also covered by Section 303. In addition, the PA includes a process for further evaluating impacts, avoidance and mitigation in the development of treatment plans for Section 106 protected properties. The PA requires that "the STB, in consultation with the appropriate Federal Agency(s), appropriate SHPO(s), appropriate Tribal representative(s) and the DM&E determine it is not feasible or prudent to avoid effects by project relocation."[21] Preparation of this Section 303 statement involved independent evaluation of the factual accuracy and legal sufficiency of the Section 106 analysis and other evaluations relevant to Section 303, which were incorporated in the EIS.

7.1.1 Bridges and Culverts

In addition to taking no action there are two general alternatives for avoidance of the use of NRHP-eligible bridges, culverts, and other track-related structures: 1) construct a new alignment and relocate the existing rail line leaving the historic structure in place or; 2) retain the structure and minimize alteration to avoid affecting the historic integrity of the structure.

1) Avoidance through Relocation to New Alignment

Avoidance of direct uses by leaving the bridge(s) in place and constructing a new rail line and bridges on a new alignment was not carried forward as an alternative in the NEPA analysis. Although numerous communities proposed construction of a new rail line to bypass certain developed areas and portions of the existing line, the STB found these bypasses to be less environmentally preferable than rehabilitation and continued use of the existing rail line. Construction of a new alignment for the entire existing rail line was not a reasonable alternative in the EIS nor is it a prudent or feasible alternative under Section 303.

Relocation of the existing rail line to avoid individual Section 303 uses identified in this statement is not a feasible and prudent alternative as the potential impacts would be substantially greater than the proposed action. New routes would need to be identified and new right-of-way would be required. Unlike roads, rail lines require more gradual curves and each diversion would affect an extended area to reach a new alignment and then return to the

[21] PA, Part B.1.

existing line. New impacts to the environment would be introduced, such as farmland conversions, business and property relocations, wetland and stream crossings, new grade crossings, and possibly more Section 303 uses. Decisions would need to be made regarding whether or not to abandon the current rail line and bridges or continue to operate and maintain the original alignment. It is likely the existing redundant rail line would be abandoned in most cases as it would be typically be unnecessary for rail operations.

Abandonment of the original line would raise questions concerning the continued rail service and access to existing rail shippers which may not be facilitated by the new alignment, as well as whether the original right-of-way would be returned to the adjacent property owners or retained as a Rails-to-Trails property. Additionally, if the rail line and bridges were left in place, maintenance and liability concerns and the responsibility for these issues would need to be established. Finally, construction of new rail alignment, including all new bridges, would approximately double the cost of rehabilitation even before the addition of right-of-way costs. Disposition or stabilization of existing bridges and abandonment of the original rail line would increase this cost even more. Any moneys received from recycling existing rail line materials would be negligible compared to these costs.

For these reasons, it is not prudent or feasible to avoid and continue to maintain and secure the many historic bridges and structures that need to be replaced while constructing new adjacent rail lines.

2) Rehabilitation to Avoid Replacement or Alteration with Adverse Effect

For each bridge type, this Section 303 Statement considers whether a prudent and feasible rehabilitation alternative to replacement exists. As discussed below, in many cases no prudent or feasible alternative to bridge replacement exists from a safety and technical engineering perspective. However, for several bridge types, rehabilitation may be possible and will be considered during the detailed design-build stage based on best and safe engineering practices. Such alternatives will be included as part of the "Treatment Plans" pursuant to the PA.[22]

As noted in 6.1.1 above, 86 through-plate girder, deck-plate girder bridges, through-truss, and deck-truss bridges of the 462 NRHP eligible bridges along the existing rail line will be further evaluated during the design-build stage. These bridges may be repairable because the main structural support member(s) of the bridge is likely to be adequate or can be made adequate to handle the increased weight requirements without replacing the entire structure.

[22] The Federal Highway Administration (FHWA), which also frequently addresses uses of historic bridges, has recognized that even though historic bridges and similar structures "are on or eligible for inclusion on the National Register of Historic Places, they also must perform as an integral part of a modern transportation system. When they do not or cannot, they must be rehabilitated or replaced in order to assure public safety while maintaining system continuity and integrity. For the purpose of this Section 303 evaluation, a proposed action will 'use' a bridge that is on or eligible for inclusion on the National Register of Historic Places when the action will impair the historic integrity of the bridge either by rehabilitation or demolition. Rehabilitation that does not impair the historic integrity of the bridge as determined by procedures implementing the national Historic Preservation Act of 1966, as amended (FHWA), is not subject to Section 4(f)." FHWA, *Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges* at 1 (1983). This Section 303 Evaluation takes a similar approach to evaluating uses of Historic Bridges.

This could avoid significantly changing the aesthetics and use of these bridges. DM&E has identified a further 14 stone arch bridges that would be retained and their rehabilitation will be further evaluated though the process established by the PA. The remaining 376 structures, including all culverts, cannot be rehabilitated due to the inadequate size or type of the main structural member(s) to handle the new weight requirements or their highly deteriorated condition. The design of these structures and their condition also do not allow for rehabilitation or replacement of the main structural member without complete removal. The DM&E provided additional information regarding timber and steel bridges for this Section 303 analysis (Appendix F). The following discussion addresses the bridges and structures by type and potential avoidance alternatives.

7.1.1.1 Bridges

Timber Bridges – This structure type is barely adequate for the limited 286 thousand pound loading they receive today let alone the 315,000 thousand pound loading anticipated with the Project. No Class I Railroad handling significant tonnage is able to successfully operate over a Class B Pile Bridge of this type. This precludes the possibility of rehabilitation of the structure without significant alterations. An in-kind replacement timber structure will not safely carry the anticipated traffic, and will result in fairly immediate failure. This type of structure will have to be replaced. As noted previously in Section 6.1.1, all 136 and possible 29 more of these NRHP eligible timber bridges must be replaced.

This bridge type includes the following:

- Timber pile bents with five creosote-treated driven timber piles and one treated timber cap across the tops of the piles.
- Creosote treated timber stringers, 3 per rail, spanning between the bents supported on the caps
- Creosote treated timber open decks where the ties supporting the rail are directly fixed to the stringers.

The bridges at these locations were generally built in the 1940's replacing timber bridges constructed earlier. The construction is typical of timber railway bridges for lightly used railroad lines around the country. The 1940 era construction conformed to railroad standards of the day, which did not provide for today's heavy axle, 100 to 125-ton car unit trains. The load rating of these bridges is typically around a Cooper's E-55. Current railroad standards for bridge design call for a Cooper's E-80 loading. The AREMA Manual, Chapter 7 Timber Structures, recommends a minimum of 6-pile per bent and at least 4 stringers per rail for 13-foot spans for new construction of timber trestles.

Timber bridge components, due to the natural forces of timber decay and wear on the structure, typically have a useful life span of 40 to 50 years. The forces from trains cause further structure degradation and progressively reduce the load carrying capacity of the structure. None of the bridges of this type are suitable for today's continuing heavy-haul train service including unit coal trains.

Figure 3 – Photo of Typical DM&E Timber Bridge

The proposed action would replace these bridges typically with precast concrete box culverts, bridges comprised of precast concrete ballast decks on steel pile bents, or ballast deck steel spans on steel pile bents meeting the design and longevity criteria embodied in the AREMA Manual for Railway Engineering and DM&E standards. Site conditions, hydraulics and hydrology and construction methods that minimize impacts to existing train traffic would be considered to determine the type of structure used. Current railroad practice is to design a structure that will typically have a 100-year life span and be designed to support a Cooper's E-80 loading or greater depending on the type of structure. The structures would also be designed to support the heavy axle cyclic loading created by Project unit coal trains.

Taking no action regarding these bridges is not prudent or feasible as the existing structures barely provide the performance to carry existing traffic loads and will not support the proposed Project traffic and loadings.

Rehabilitation of the existing structures would replace existing members with similar material maintaining the look of the bridges, but would not increase the load carrying capacity. Timber of the sizes used in the 1940's is difficult to find and very expensive to obtain, fabricate and use for construction. Even if available, the weaker timber infrastructure would not sustain the heavy haul traffic. This alternative is not

prudent or feasible, as it would not support the proposed Project traffic or satisfy the project purpose.

To upgrade these bridges, additional piles would need to be driven at each bent and existing piles would also need to be replaced. Additional stringers would be needed and existing stringers replaced. To provide for longevity and meet current standards for track maintenance, the existing open deck would need to be replaced with a ballast deck. Upgrading these structures in place is not feasible as the spacing of the existing piling precludes adding additional piles that would provide adequate additional support. Upgrading these timber structures would change their appearance, compromising their historical integrity. This alternative is also not prudent due to the continual maintenance that would be required and high life-cycle cost under the future train traffic, the cost and difficulty of obtaining the new large size timbers, and the restricted opening that would constrain hydraulic flow. While feasible, this alternative would substantially alter the appearance of the existing structures and therefore would not avoid use of the bridges. This alternative is not prudent as there would be more impact to waterways due to additional pilings being driven, and the bridges would be inferior, uneconomical and difficult to maintain.

Steel Structures

I-Beam – This bridge type, although sufficient for existing traffic, is too light for the sustained heavy haul traffic from the Project. Neither repair nor an in-kind replacement will safely carry anticipated Project traffic, and will result in fairly immediate failure. All 36 of these bridges must be replaced.

Steel I-Beam bridges, presently designated "American Standard (S) beams," were typically used in the early part of this century before the advent of wide flange structural steel rolled shapes. This early century span type consisted of one or more beams per rail supporting treated timber bridge ties on an open deck construction supporting the rail. These spans, due to their typical short length, in the 25- to 30-foot range, are subject to a high number of cyclic loadings. This high cyclic loading is exacerbated by their being designed for the light axle loads, typically 40 to 50 thousand pounds, of the era. This type of structure was used by railroads throughout the country during the early part of the century as they met the then current design standards and supplied a bridge span that was longer and more permanent than the timber bridges but fit the “short” span category. Based on engineering review by the DM&E, none of the bridges in this category are equipped with steel structure adequate to accommodate heavy haul traffic on a sustained and safe basis.

The beams are typically supported by un-mortared and un-reinforced masonry piers or timber pile bents. Not all supports have been tested to state with certainty that each is unfit for heavy-haul purposes, but it is immaterial to the final outcome because of the lightness of steel structure for each bridge in this category. Even in the highly unlikely event that some base support infrastructure was found that could support heavy haul loadings, it would serve no purpose as the steel superstructure is too light.

The proposed action would replace these bridges typically with precast concrete box culverts, bridges comprised of precast concrete ballast decks on steel pile bents or ballast deck steel spans on steel pile bents meeting the design and longevity criteria embodied in the AREMA Manual for Railway Engineering and DM&E standards. Site conditions, hydraulics and hydrology and construction methods that minimize impacts to existing train traffic will determine the type of structure used. Current railroad practice is to design a structure that will typically have a 100-year life span and be designed to support a Cooper's E-80 loading or greater depending on the type of structure. The structures would also be designed to support the heavy axle cyclic loading created by unit trains proposed for the Project.

Taking no action regarding these bridges is not feasible or prudent as they have reached the point where fatigue failure is a concern with the current levels of traffic. In addition, the light design will not support the heavier axle loads and increased volume of proposed Project traffic.

Rehabilitation of these bridges would involve the replacement of the existing structure members with similar types of beams. However, such beams are no longer rolled and the depth and size of the members, if they were obtainable, would not meet current design standards nor support Project traffic. It is not possible to repair the steel beams. In addition, the existing substructures, with non-reinforced masonry or timber pile will not support the anticipated future loadings. Rehabilitation of these bridges is not a feasible or prudent alternative.

Upgrading these bridges is not feasible or prudent as this would substantially alter the appearance of the bridges and would compromise their historical integrity. I-beams of the type and size originally used, if one were to add beams to increase the load carrying capacity, are not readily available. The substructure would also need to be upgraded or replaced, and doing this while maintaining train traffic would require relocating the substructure and bridge.

Through-plate Girder – This bridge type is generally too light for sustained heavy traffic demands from the Project. While DM&E expects that the 18 bridges of this type will require replacement (Appendix D), all 35 of these bridges will be further evaluated during the design-build phase to determine if any can reasonably be repaired instead of replaced.

These bridges were constructed prior to mid-century and were designed to carry 40-50 thousand pound axle loads. The spans typically range up to 80 feet in length and are supported by un-mortared and un-reinforced masonry piers or timber pile bents. These structures consist of two main steel girders supporting a steel floor system between them that supports an open deck of creosote timber ties supporting the rail. The main girders and portions of the floor system were built-up of smaller structural steel members riveted together to form girders, floorbeams and stringers. The steel members were then connected together to form a span. Through plate girder bridges

were commonly used throughout the country for moderate length spans requiring a shallower depth providing vertical clearance under the structure.

Although steel fatigue of the main girders is not a major concern, the internal floor system supporting the deck is subject to steel fatigue similar to the I-beam bridges and may not carry the proposed traffic. Further engineering analysis will most likely reveal that replacement and a change in structure type is necessary.

If it is determined through further engineering analysis that it is not feasible or prudent to keep the existing structure or perform the floor system rehabilitation/replacement, then a new structure will be constructed. New structures would be either precast concrete box culverts, bridges comprised of precast concrete spans with ballast decks on steel pile bents, or ballast deck steel spans on steel pile bents that meet the design and longevity criteria embodied in the AREMA Manual for Railway Engineering and DM&E standards.

Deck-plate Girder – Most of the 29 (and possibly 30) bridges in this bridge category are too light for sustained heavy Project operations, and will require replacement or modification. Most deck plate girder spans were selected in the past because the type provided the necessary span length and also could accommodate the necessary vertical clearance under the structure. These 29 bridges will be further evaluated with additional engineering analysis during the design-build phase to determine if any can reasonably be repaired instead of replaced.

The bridges constructed prior to mid-century were designed to carry 40-50 thousand pound axle loads. The main girders, normally two per span, were built-up of smaller structural steel members riveted together. The main girders, typically spaced seven to nine feet apart, are connected together with steel framing called diaphragms and a top and bottom lateral system to form a span. This type of construction is typical of the era and type. They were commonly used throughout the country for moderate length spans where the taller girders below the rail did not create a clearance problem with the feature crossed.

These structures consist of two main girders directly supporting an open deck of creosote timber ties supporting the rail. The spans are typically supported by un-mortared and un-reinforced masonry piers or timber pile bents. These spans typically range up to 80 feet in length with the predominant length in the 30 to 50-foot range.

Due to the nature of the built-up construction and the typical span length, steel fatigue of the main girders is not a major concern. This type of main girder may provide the load carrying capacity to support the loads created by the proposed traffic, but detailed engineering analysis is necessary to make such determinations. If replacement with a new structure is necessary, either precast concrete box culverts, bridges comprised of precast concrete spans with ballast decks on steel pile bents, or ballast deck steel spans on steel pile bents that meet the design and longevity criteria

embodied in the AREMA Manual for Railway Engineering and DM&E standards would be built.

Through-truss – Final determinations as to replacement of the 21 bridges of this type will be made during the design-build stage of the project, based on best engineering practices, to determine those that can reasonably be repaired instead of replaced. Initial evaluation indicates that many of these structures may be retained and repaired in a fashion that does not materially alter the appearance of the bridge.

These steel structures are used where the span lengths are typically longer than 80 feet. They were utilized to minimize the weight of steel used on longer spans to utilize the erection equipment of the day. These types of structures were used around the country on various railroads and are of similar construction. The bridges constructed prior to mid-century were designed for axle loads in the 40 to 50 thousand pounds. The initial determination that the spans need replacement is based on this design load history. The spans are typically supported on un-reinforced, non-mortared stone masonry piers or multiple rows of timber piles with timber corbels and blocks used to support the bearings.

Figure 4 – Photo of Typical DM&E Through-Truss Bridge

The main girders consist of small steel members riveted to form steel shapes framed into a truss that is approximately 30 feet tall. Two trusses are framed together with a top lateral system and supporting a bottom floor system that supports the creosote tie open deck that supports the rail and train traveling through the truss. The floor system is similar to the through-plate girder floor system. The trusses typically range from 16-feet to 18-feet apart.

The internal floor system, due to the "short span" nature of the floorbeams and stringers supporting the deck, may not support the loads created by the proposed Project traffic and are subject to steel fatigue similar to the I-beam bridges. Therefore a review process will be conducted during the design phase of the project to determine the approach that meets project criteria while at the same time providing the detailed documentation to support the selection of the alternative to meet Section 303 requirements.

If it is determined through the above process that it is not feasible or prudent to keep the existing structure or perform the floor system rehabilitation/replacement, then a new structure will be constructed. New structures will be either precast concrete box culverts, bridges comprised of precast concrete spans with ballast decks on steel pile bents, or ballast deck steel spans on steel pile bents meet the design and longevity criteria embodied in the AREMA Manual for Railway Engineering and DM&E standards.

Deck-truss – The single structure of this type can be characterized in a similar manner as the through-truss, except the floor system and trains travel on top of the truss and the truss hangs below. The further evaluation of conditions and approach will be the same as the through-truss bridges.

7.1.1.2 Stone Box Culverts

These 184 structures are buried in the soil, and many have marginal cover between the stone cover and the bottom of the cross ties. Many of these culverts are already of marginal structural sufficiency. They will not safely carry the anticipated train loads. Neither rehabilitation of these structures nor retention are reasonable alternatives and all 184 stone box culverts must be replaced.

7.1.1.3 Stone Arch Bridges

All but one of these 15 structures most likely will be retained, subject to detailed engineering evaluation, but most will require a wing wall be added to the structure to make them sufficient for continued use. Final design of the wing wall has not been completed. However, the wing wall would generally be placed on top of the stone arch to allow for additional embankment on top of the bridge to accommodate the new grade of the rail line. It is unknown how tall the wing walls would need to be. However, they would not change the bridge structurally or architecturally, and the visual effect is anticipated to only slightly change their appearance. Such changes may constitute a use; however as this use is not

anticipated to adversely affect these stone arch bridges, the *de minimis* standard, as discussed in Chapter 6, would apply.

One stone arch structure will require replacement as the structure has experienced significant deterioration and would require a different construction type to meet the structural requirements for the increased weight. This arch is located near Verdi, MN. Final design would be based on best engineering practices, and it is expected that a concrete box culvert or short concrete span would be used. There is no feasible and prudent alternative to the replacement of this stone arch bridge.

Figure 5 – Photo of Typical DM&E Stone Arch Bridge

7.1.1.4 Concrete Bridges

Alternatives to replacement of the two concrete bridges will be considered during the design-build stage, and determinations made based on best and safest engineering practices. The proposed construction, if replacement is determined necessary, will be in-kind replacement as a reinforced concrete box culvert.

7.1.1.5 Miscellaneous Bridges and Culverts

The existing concrete and I-beam structure in Minnesota will inevitably fail if no action is taken. The likely replacement structure will either be a culvert, concrete box culvert or other concrete span bridge. Because they are so brittle, the two cast iron pipe culverts in Minnesota

cannot be disturbed or maintained. As a practical matter, they are deteriorated in place and must be replaced with functional drainage, expected to be in the form of a culvert. There are no feasible or prudent alternatives to replacement of these three structures.

7.1.2 Other Eligible Structures

No uses of other eligible historic structures were identified, therefore, no avoidance measures were considered.

7.1.3 Cultural Resources

Disturbance of archaeological sites and/or proximity effects on TCP within the existing rail line area of potential effect may be unavoidable because as explained in 7.1.1 an alternative route would result in greater environmental and associated impact and potential new Section 303 uses. However, these resources would generally not qualify as Section 303 resources because they quality for inclusion on the National Register of Historic Places under Criteria D only (see footnote 27). See also Chapter 8, Measures to Minimize Harm, for a discussion of the mitigation measures proposed. In addition in many cases, archaeological resources would be unaffected by proposed rehabilitation activities.

The Preferred Alternative was selected based on consideration of all environmental factors. During the design-build phase of the Project, alternatives for avoidance of direct uses of archaeological sites and TCPs within the limits of new rail line construction and existing rail line rehabilitation will be considered and applied when feasible and reasonable, as outlined in the PA. When avoidance alternatives are not feasible or reasonable, the measures outlined in the PA will be applied for the development of mitigation measures.

7.2 OTHER SECTION 303 PROPERTIES

Only limited use of three trails were identified for this property type. No alternatives to avoid these three uses are available that would have less environmental impact than the proposed action.

CHAPTER 8
MEASURES TO MINIMIZE HARM

8.1 SECTION 106 RESOURCES SUBJECT TO SECTION 303

The development and approval of the PA is discussed in Section 2.2.2. Development of the PA, for the fulfillment of the requirements of Section 106 provides a methodology for location, inventory, identification, recording, and evaluation of Section 106 resources that are encountered by the Project. The PA outlines a program to satisfy all Section 106 responsibilities for all aspects of the Project, and the FRA is seeking to participate in the PA.

All Section 106 historic structures are also protected by Section 303. The Project involves the use of certain existing bridges and culverts due to rehabilitation of the existing rail line. Part B of the PA outlines the process for development of treatment plans for historic properties, including historic structures. Treatments are, in essence, measures to minimize and/or mitigate the adverse effects to the property. The treatment plan development process includes a stringent review process with the appropriate review agency (commonly the SHPO) with jurisdiction and with the STB.

Through implementation of the PA, feasible and prudent alternatives to avoid impacts to Section 106 resources will be identified. As an example, Part B.1. of the PA provides "Each Treatment Plan will address the historic property adversely affected and set forth means to mitigate the undertakings' effects where the STB, in consultation with the appropriate Federal agency(s), appropriate SHPO(s), appropriate Tribal representative(s) and DM&E determine it is not feasible or prudent to avoid effects by project relocation." Provided none exist, each treatment plan must set forth means to mitigate for the undertaking's adverse effect. In doing so, all measures to minimize the adverse effect or harm will be identified, reviewed by appropriate agencies, and implemented.

In addition, the USFS provided mitigation measures within its Record of Decision for the Project (September 2003) that includes monitoring of construction sites for archaeological and historic resources.

8.2 OTHER SECTION 303 PROPERTIES

In addition to the avoidance measures generally considered during development of alternatives, the following presents minimization measures for the uses identified in 6.2, Other Section 303 Properties.

8.2.1 Uses

The following minimization measures were identified for the direct uses of Section 303 properties (other than historic structures and cultural resources):

Missouri River Trail – Connectivity of the trail would remain intact as crossings would be accommodated during construction. Construction at the trail location is anticipated to take less than one day.

Cottonwood Path - Connectivity of the trail would remain intact via a detour of the trail. The trail detour is approximately 5,000 feet long and would be in use during construction at the trail crossing. Construction at the trail location is anticipated to take 32 weeks. However, the trail would experience alternating 4-week closures and 4-week openings throughout the construction period. A temporary trail detour has been identified and would be approximately 5,000 feet long.

Sakatah Singing Hills State Trail – With the existing rail corridor alternative at Mankato (M-3) connectivity of the trail would remain, as the crossing would be accommodated during construction. Closure of the trail crossing during construction would only last one or two days. However should the Southern Mankato Route (M-2) be implemented, no use would occur as the trail would not be crossed.

8.2.2 Proximity Effects

No uses of Section 303 properties due to proximity effects were identified. However, minimization measures would still be implemented as imposed by the STB as conditions to its 2006 Decision (See Appendix A). Specific mitigation measures identified that would minimize potential proximity effects to Section 303 properties are:

- Cultural resources mitigation measures (Condition numbers 105-108)
- Coordination with Federal, state, and local land managers for development of plans to provide alternative access to recreation lands that will have lost or reduced access during Project-related construction, reconstruction activities, or operation of unit coal trains.
- Coordination with affected communities regarding project-related construction schedule to minimize, to the extent practicable, construction-related noise disturbances in residential areas.
- Development of a Construction Noise and Vibration Control Plan to minimize construction noise and vibration in communities along the rail line.
- Development of a habitat restoration plan designed to compensate for the loss of trees, shrubs, and other woody vegetation, prairies, and other important wildlife habitats as a result of construction and reconstruction related activities.
- Prior to new rail line construction, coordination with resource agencies to develop under- and overpass designs and locations to protect wildlife and provide access to water sources.

These conditions, as well as all other conditions and monitoring imposed in the STB decision, were developed and would be implemented to minimize effects to all resources, including those qualifying as Section 303 properties.

CHAPTER 9
303 DETERMINATION

The FRA has concluded that no feasible and prudent alternatives exist for the replacement of all timber and I-beam bridges, a stone arch bridge near Verdi, MN, stone box culverts, a concrete/I-beam bridge, and cast iron pipe culverts found along the existing DM&E rail line proposed for rehabilitation. Replacement of these structures is required due to significant deterioration precluding rehabilitation of the structure, the inadequacy of the structure design to handle the increased track loading, or the inability to rehabilitate or replace the main structural member of the bridge to adequately and safely handle the increased weight with out essentially dismantling and replacing the bridge structure.

Additionally, it is likely that numerous through-plate girder, deck-plate girder, through-truss, and concrete bridges will require replacement. However, final determinations as to the ability of these structures to handle the increased weight will not be made until the design-build stage of the project. If possible, these structures will be retained and rehabilitated, resulting in only a *de minimis* use, if any use at all. FRA anticipates having a continuing involvement in the decision making process regarding these bridges to ensure that the Section 303 standards continue to be applied.

Several stone arch bridges will require construction of wing walls to accommodate changes in rail grade. These wing walls will likely cause only minor alterations in the visual character of the bridge and not lead to an adverse effect finding. This would result in only a *de minimis* use.

De minimis use may also occur to the Missouri River Trail, Cottonwood Path, and Sakatah Singing Hills State Trail due to temporary trail closures during construction. However, following construction, trails would be reopened at these locations with no permanent change in the trail locations or routes. Other Section 303 resources, such as wildlife refuges, waterfowl production areas, wildlife management areas, state parks or local parks were evaluated in the EIS to determine if significant proximity affects would occur to these resources. No significant proximity effects or other uses to these resources were identified, although some potential minor noise effects could occur that would be minimized with application of mitigation measures imposed by STB.

Finally, no direct uses of cultural resources were identified. Additional surveys for these resources will be completed following completion of preliminary engineering, potential eligibility for listing on the NRHP determined, opportunities for avoidance evaluated, and any direct uses to archaeological sites identified, according to the procedures outlined in the PA executed for the project. At this time, no uses under Section 303 are anticipated to occur to archaeological sites or TCPs as they are expected to be eligible for the NRHP only under

Criteria D. However, all archaeological sites and TCPs determined eligible for the NRHP would be addressed as part of the PA.

FRA concludes that there will be uses of Section 303 resources identified in this statement, but that there are no feasible and prudent alternatives to the proposed uses. FRA has incorporated documentation and consultation by the STB in this evaluation and is seeking to participate in the Programmatic Agreement for compliance with the National Historic Preservation Act to ensure that the Project includes all possible planning to minimize harm.

Federal Railroad Administration, USDOT Date

CHAPTER 10
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